AMERICAN

SEPTEMBER • 1958

Cinematographer

THE MAGAZINE OF MOTION PICTURE PHOTOGRAPHY



In This Issue . . .

- Exposure Evaluation
- Underwater Cinematography
- Camera Housing For Underwater Photography

35c

FOREIGN 45c



Don Malkames *(center)* examines cine strips on the "Rendezvous" set. John Newland, Director *(right)*, discusses film quality with Du Pont Technical Representative, Jae Daugherty.

Don Malkames *(left)* and son, Karl

"New Du Pont 'Superior' 2...

the finest film I've ever used"

This was the reaction of Don Malkames, A.S.C., Director of Photography for the television series, "Rendezvous," being produced by Kenco Productions, New York, for CBS.

After using the completely new Du Pont "Superior" 2 Type 936 Motion Picture Film for thirteen half-hour shows, Mr. Malkames joined the laboratory technicians in praising the film. Their conclusions were:

Finest grain structure they had ever seen;

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Excellent tonal gradation;

Requires one-third less processing time.

Don states: "This new Du Pont film does more to make my job easier than any other film I know. It takes a lot of the headaches out of lighting and actually produces better pictures than you have any right to expect. Without doubt, 936 is the finest negative stock I've ever used."

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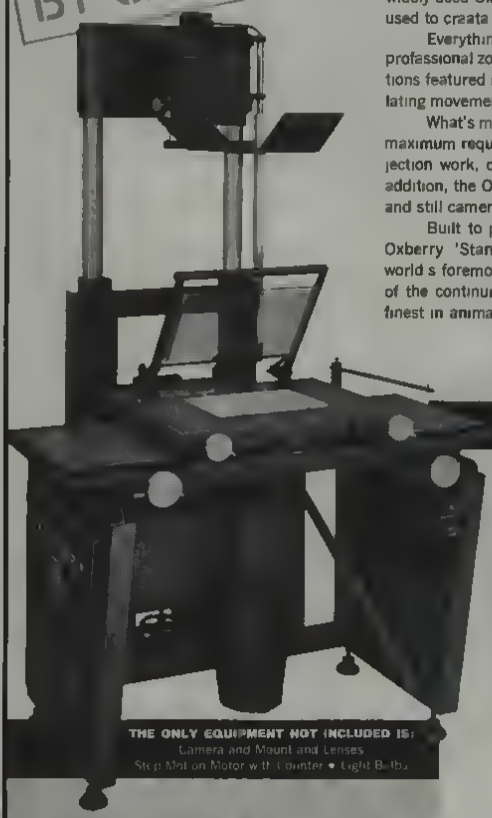
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AMERICAN

Cinematographer

THE MAGAZINE OF MOTION PICTURE PHOTOGRAPHY

PUBLICATION OF THE AMERICAN SOCIETY OF CINEMATOGRAPHERS

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ON THE COVER

WINTON HOCH ASC center who directed the Photography of Walt Disney's "Darby O'Gill and the Little People," gets a laugh out of antics by Sean Connery and Janet Munro during filming of scene for picture on the Disney lot in Burbank. Director Robert Stevenson is standing beside Hoch. Albert Sharpe, who plays title role, stands behind Connery —*Photo by Floyd McCarty*

AMERICAN CINEMATOGRAPHER established 1920 is published monthly by the A S C Agency, Inc 1782 N Orange Dr Hollywood 28 Calif Entered as second class matter Nov 18 1937 at the postoffice at Los Angeles Calif under act of March 3 1879 SUBSCRIPTIONS United States and Canada $4 00 per year Foreign, including Pan American Union $5 00 per year Single copies 40 cents back numbers 40 cents foreign single copies 40 cents back numbers 45 cents Advertising rates on application

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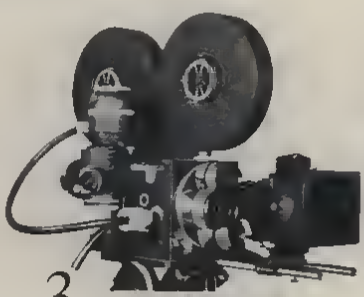
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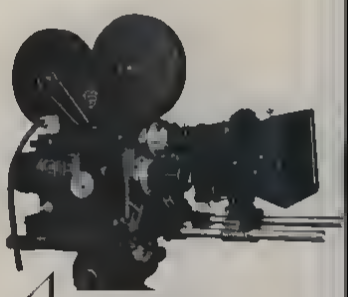
1 35mm Studio BNC Mitchell



2 35mm NC Mitchell



3 35mm Hi-Speed Mitchell



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5 70mm 2¼ x 2¼ High Speed Mitchell



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INDUSTRY NEWS

News briefs of industry activities, products and progress



Photographed with ordinary anamorphic lens. Face appears "chubby" and distorted



Result with Panavision anamorphic lens. Note absence of distortion. Features are natural

Two new anamorphic lenses for film production developed by Panavision and said to be a major improvement over those presently in use, were demonstrated last month by Robert Gottschalk, president of Panavision, at a special meeting of the American Society of Cinematographers at MGM studio.

Tradenamed Auto Panatar and Ultra Speed Panatar, each lens has been designed to increase photographic qualities in its respective field.

The Auto Panatar, designed for regular production, entirely eliminates distortion and side falloff which is common with most other anamorphic lenses in use today. Gottschalk pointed out, and the screened demonstration of results obtained with this lens supported his statement.

Interesting is the fact it is possible to shoot closeups of faces at 26 inches with this lens with completely distortion free results. This was graphically demonstrated in a series of closeups filmed in color which were screened during Mr. Gottschalk's talk. The shots made with the Panavision lens were entirely lacking in the elliptical distortion that characterizes many closeups made with other anamorphic lenses. (See photos above.)

Also screened was footage from MGM pictures already in release. In every case, horizon lines were completely horizontal and lacked the "dishing" effect sometimes seen in shots made with older type anamorphic lenses. Vertical lines were also true right to the very edge of the picture (which was screened in 3-to-1 ratio)—a point dramatically emphasized with scenes filmed crossing the Bay Bridge in San Francisco, where the picture was framed at either side by the vertical support-cables of the bridge.

The Ultra Speed Panatar is said to be the fastest anamorphic lens made and will permit photography in color on remote locations without need for generators. Demonstrated were night color shots filmed with existing light on Hollywood Boulevard, with only the street and marquee lights for illumination.

• • •

3-D on a single film, using standard projectors and without need for audience to wear glasses is achievement claimed by L. E. Thomas, head of The Pictorial Company, New Castle, Ind. Thomas claims also to have perfected an anamorphic lens that replaces the camera lens or the projector lens for wide-screen pictures.

• • •

Arriflex cameras may soon be manufactured in the United States if satisfactory arrangements can be worked out with the present German manufacturer.

• • •

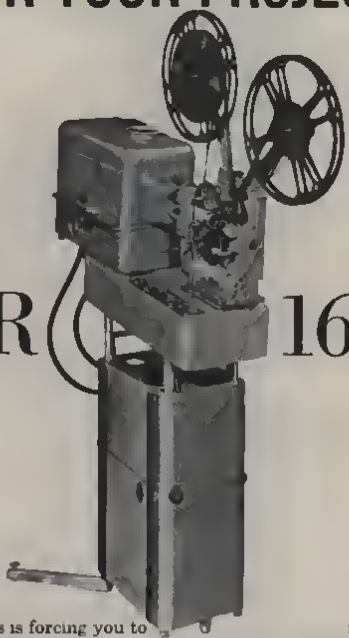
'Ben Hur' promotional films are being produced for MGM in Italy by Morton Heilig, former NBC cameraman-reporter. Films will run about six minutes in length and will be produced especially for exploitation of MGM's epic production via television.

• • •

Of the 58 motion pictures produced by the University of Southern California cinema department in 1957-58, 42 were made by student crews as part of their academic credit toward degrees in cinema. The films ranged from thoughtful documentary comment on modern machine-dominated private life to a local joke about a mythical departmental character called the "real eater."

A newly-formed Graduate Production Unit is composed of students working towards a master's degree in cinema. •

GET MORE FOR YOUR PROJECTOR DOLLAR



VICTOR 1600 ARC

If the high cost of 16mm arc projectors is forcing you to "make do" with an auditorium-type incandescent—you owe it to yourself to consider the Victor 1600 Arc It delivers a full 1600 lumens of light on the screen at 30 amps with Mark II Shutter—more than three times that of any incandescent—yet it's still easier on your budget than other 16mm arcs. It incorporates all advanced Victor projector features and a powerful 25-watt amplifier The 1600 Arc runs for a full hour on one set of carbons, does not require a special projection booth, and is the only arc projector made with 3-case portability.

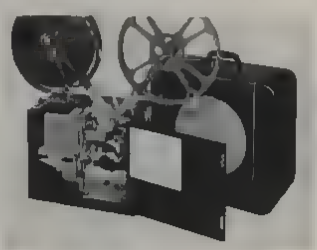
SPECIFICATIONS

Selenium Rectifier has top-mounted controls, swing-out legs, built-in tilt lock, is blower cooled. Also serves as base for projector

Speaker case houses 12" bass reflex speaker and is carrying case for 25-watt amplifier-projector unit.

Lamphouse has built-in ammeter with motor rheostat, automatic carbon feed, external arc position marker.

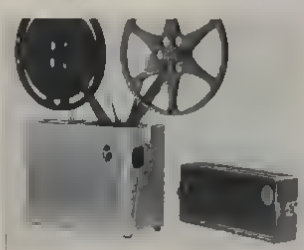
Compare the Victor 1600 Arc side by side with any other 16mm arc and see for yourself how much more you get for your projector dollar.



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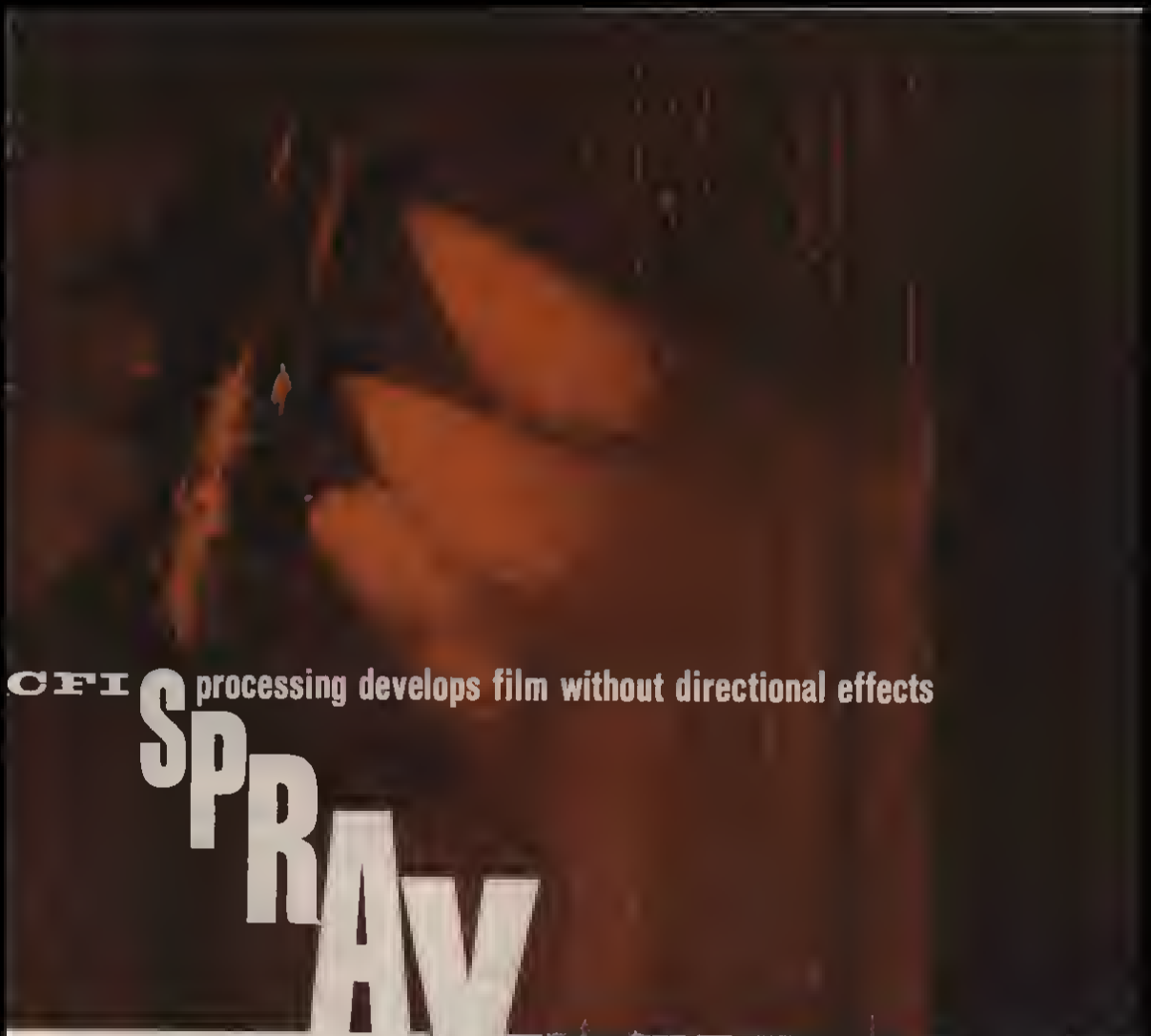
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CFI processing develops film without directional effects

SPRAY

This is a close-up of black-and-white film being spray developed at CFI. This processing method eliminates directional effects.

Chief Engineer Ed Reichard, with CFI Hollywood for 25 years, shows a spray machine in operation. Both the Hollywood and New York laboratories of CFI are equipped with these machines.



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PHOTOGRAPHIC ASSIGNMENTS

Who, where and what the industry's cameramen were shooting last month

★ *Asterisks indicate commercial and television film productions*

ALLIED ARTISTS

● William Margulies, "Revolt in the Big House" with Gene Evans and Robert Blake R. G Springsteen, director, "The Fire Bug" with Steve Brodie and Lyn Thomas Thor Brooks, director, "Gangster's Boy" with Stephen McNally and Coleen Gray Paul Landres, director

AMERICAN NATIONAL

● Monroe Askins "Rough Riders"* (Ziv TV) with Kent Taylor John Rich, director, "Highway Patrol"* (Ziv-TV) with Broderick Crawford Lew Landers, director, "World of Giants"* (Ziv-TV) with Marshall Thompson Otto Lang, director

● Curt Fetters, "MacKenzie's Raiders"* (Ziv TV) with Richard Carlson. Various directors

● Bon Hoffman, "Target"* (Ziv TV) with Adolphe Menjou Lloyd Bridges, director, "Sea Hunt"* (Ziv TV) with Lloyd Bridges Leon Benson, director.

● Glen MacWilliams, ASC, "Rough Riders'* (Ziv-TV) with Kent Taylor John Rich, director, "Target"* (Ziv TV) with Adolphe Menjou Thomas Gries, director

● Roger Sherman, "Bat Masterson"* (Ziv TV) with Gene Barry David Friedkin, director, Rough Riders"* (Ziv-TV) with Kent Taylor John Rich, director

CALIFORNIA STUDIOS

● David Horsley ASC, Sterling Drug commercial* (Roland Reed Prods.) Arthur Pierson, director

● Howard Schwartz, "Have Gun Will Travel"* (Filmaster Prods.) with Richard Boone. Various directors

● Fleet Southcott, "Gunsmoke"* (Filmaster Prods.) with James Arness and Dennis Weaver. Various directors.

CASCADE PICTURES

● Elwood Bredfeld, ASC, Falstaff Beer commercial* Stuart Frye, director, Mars candy commercial* George Seitz, director

● Roy Seawright, Max Factor and Pillsbury Icebox cookies commercials* George Seitz, director

COLUMBIA

● Gene Andersen, ASC, "The Donna Reed Show"* (Screen Gems) with Donna Reed Oscar Rudolph, director

● Kit Carson, "Father Knows Best"* (Screen Gems) with Robert Young and Jane Wyatt Peter Tewksbury, director

● J Burgi Contner, ASC, "Naked City"* (Shelle Prods., Screen Gems shooting in N. Y.) with John McIntyre and James Francicus. Wm Beaudine and S Rosenberg, directors

● Henry Freulich, ASC, 'Shirley Temple's Storybook"* (Screen Gems) with Shirley Temple. Various directors.

● Fred Jackman, Jr., "Senior Prom" with Jill Corey and Paul Hampton David Rich, director, "The Ed Wynn Show"* (Screen Gems) with Ed Wynn. Arthur Lubin, director.

● Charles Lawton, ASC, "Ride Lonesome" (Ranown Prods shooting in Lone Pine; CinemaScope & Color) with Randolph Scott and Karen Steele. Budd Boetticher, producer-director

● Irving Lippman, "Tales of the Texas Rangers"* (Screen Gems) with Willard Parker. George Blair, director.

● Ted Moore, "The Bandit" (Warwick Prods., CinemaScope & Color, shooting in Spain) with Victor Mature. John Gilling, director

● Frank Phillips, "Jefferson Drum"* (Screen Gems) with Jeff Richardson. Harmon Jones, director.

PROGRESS
LOYALTY ASC ARTISTRY

AMERICAN SOCIETY OF CINEMATOGRAPHERS

FOUNDED January 8, 1919, The American Society of Cinematographers is comprised of the leading directors of photography in the Hollywood motion picture and TV film studios. Its membership also includes cinematographers in foreign lands. Membership is by invitation only.

●

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WALT DISNEY

● Gordon Avil, ASC, 'Zorro"* with G Williams. Charles Barton, director

● Walter Castle, ASC, 'John Slaughter"* with Tom Tryon and Robert Middleton. Henry Keller, director.

● Edward Colman ASC, The Shaggy Dog" (Walt Disney Prods for Buena Vista release) with Fred MacMurray and Jean Hagen. Charles Barton, director

● Loyal Griggs, ASC, "Tonka" with Sal Mineo and Fess Parker, Lewis R Foster, director

● Harry Waxman, "Third Man on the Mountain" (Technicolor Walt Disney Prods Ltd for Buena Vista release, shooting in Switzerland) with Michael Rennie and James McArthur Ken Annakin, director

FOX WESTERN AVE

● Lloyn Ahern, ASC, "How to Marry a Millionaire"* Various directors.

● George Diskant ASC, "Trackdown"* (Four Star Prods.) with Robert Culp Various directors: "Dick Powell's Zane Grey Theatre"* (Four Star Prods.) with Dick Powell Robert Florey, director, "The Rifleman"* (Four Star Prods.) with Chuck Connors Arnold Laven, director

● Frank Redman, ASC, "The Perry Mason Show"* with Raymond Burr Various directors

● Guy Roe, ASC, "Trackdown"* and "Wanted Dead or Alive"* (Four Star Prods.) Thomas Carr and Donald McDougall, directors.

GENRRAL SERVICE

● Henry Sharp, ASC, "Bold Journey"* (Advance Prods.); Leon Barsha, director.

GOLDWYN STUDIOS

● Norbert Brodine, ASC, "Loretta Young Show"* (Lewislor Prods.) with Loretta Young. Various directors

INDEPENDENT

● John Alton, "Lonelyhearts" (Schary Prods. for UA) with Montgomery Clift, Robert Ryan and Myrna Loy. Vincent Donehue, director

● Maury Gertzman, ASC, "Riot in Juvenile Jail" (Vogue Pictures for UA) with Jerome Thor and Marcia Henderson Edward L. Cahn, director

● Jack Hildyard, "The Devil's Disciple" (Hecht Hill Lancaster; UA release, shooting in London) with Laurence Olivier, Kirk Douglas and Burt Lancaster Alexander Mackendrick, director

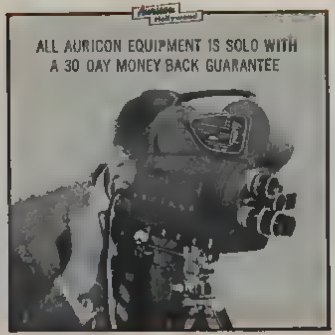
● Charles Lang, Jr, ASC, "Some Like It Hot" (Ashton Prods.—Mirisch Co for UA release) with Marilyn Monroe and Tony Curtis Billy Wilder, director.

● Sam Leavitt, ASC "Pork Chop Hill" (Melville Prods." UA release) with Gregory Peck and Harry Guardino Lewis Milestone, director

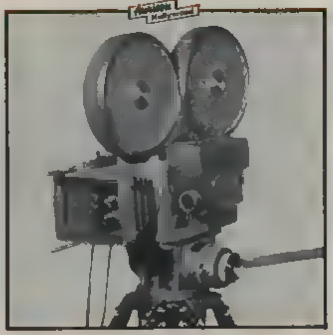
● Giuseppe Rotunno, "The Naked Maja" (Titanus Metro for UA release, shooting in Rome) with Ava Gardner and Anthony Franciosa Henry Koster, director

(Continued On Page 530)

AURICON 16mm Sound-On-Film for Professional Results!



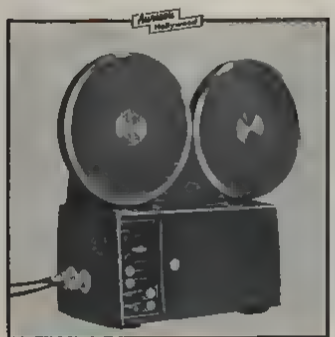
"CINE VOICE II" 16 mm Optical Sound On Film Camera. ★ 100 ft. film capacity for 2¾ minutes of recording, 6-Volt DC Convertor or 115-Volt AC operation. ★ $795.00 (and up).



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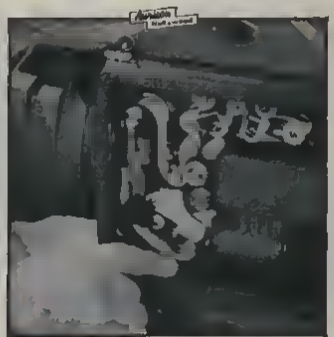
"SUPER 1200" 16 mm Optical Sound On Film Camera. ★ 1200 ft. film capacity for 33 minutes of recording. ★ $5667.00 (and up) complete for "High-Fidelity" Talking Pictures.



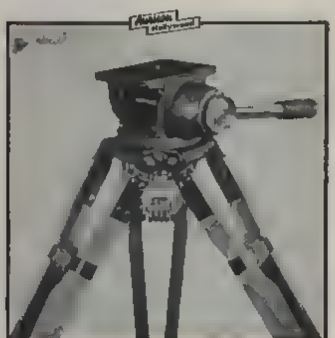
SOUND RECORDER — Model RM-30 . . . 1200 foot film capacity, synchronous motor for "double-system" 16mm Optical Sound-On-Film operation. ★ $3630.55 (and up)



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If it's profit you're after in the production of 16 mm Sound-On-Film Talking Pictures, Auricon Cameras provide ideal working tools for shooting profitable Television Newsreels, film commercials, inserts, and local candid-camera programming. Now you can get Lip-Synchronized Optical or Magnetic Sound WITH your picture using Auricon 16 mm Sound-On-Film Cameras. Precision designed and built to "take it."

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With F and T Stops for

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16mm T2.2 F/2

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We are pleased to announce the immediate availability of this new series of the famous Rodenstock Heligon lenses They were developed in closest collaboration between Arri and Rodenstock Optical Works, one of West Germany's oldest and largest precision lens manufacturers

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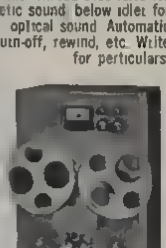
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PHOTOGRAPHIC ASSIGNMENTS

(Continued From Page 526)

INDEPENDENT

● JOHN STITZ, ASC, "Man in the Net" (Mirisch Co-Jaguar Prod. for UA) with Alan Ladd and Carolyn Jones. Michael Curtiz, director

KTTV STUDIOS

● JOHN MARTIN, ASC, "Fury"* (TPA Prods.) with Peter Graves and Bobby Diamond. Ray Nazarro, director

● WALTER STRENGE, ASC, "Fury"* (TPA Prods.) with Peter Graves and Bobby Diamond. Ray Nazarro, director

McGOWAN STUDIOS

● BRYDON BAKER, "Death Valley Days"* (McGowan Prods.) with Jack Grant. Stuart McGowan, director

● RAY FOSTER, ASC, Compandina Foods commercial* (La Brea Prods.) Hank Ludwin, director

● HAL MCALPIN, Chesterfield commercial* (LaBrea Prods.) Hank Ludwin, director

METRO-GOLDWYN-MAYER

● STEPHEN DADE, "The Angry Hills" (shooting in Greece) with Robert Mitchum and Elizabeth Mueller. Robert Aldrich, director

● WILLIAM DANIELS, ASC, "Some Came Running" (Color) with Frank Sinatra, Dean Martin and Shirley MacLaine. Vincente Minnelli, director

● GEORGE FOLSEY, ASC, Drene Shampoo and Ivory soap commercials* Robert Cashy, director, Viceroy commercial* W. Arnett, director

● HAROLD MARZORATI, ASC, Pace commercial* Dave Monahan, director; S & W Coffee and G & D Wine commercials* Robert Cashy, director

● JOSEPH RUTTENBERG, ASC, "Green Mansions" (CinemaScope and Metrocolor) with Audrey Hepburn and Anthony Perkins. Mel Ferrer, director

● HARKNESS SMITH, "Northwest Passage"* with Keith Larsen. Jacques Tourneur, director; American President Line commercial* Robert Cashy, director

● LESTER SHORR, ASC, "Col. Humphrey J. Flack"* (Joyd-Pan Prods.) with Alan Mowbray and Frank Jenks. John Rich, director

● ROBERT SURTEES, ASC, "Ben-Hur" (Metrocolor, camera 65; shooting in Italy) with Charlton Heston and Jack Hawkins. William Wyler, director

● HAROLD WELLMAN, ASC. American President Line commercial* Robert Cashy, director

MOTION PICTURE CENTER

● LUCIEN ANDRIOT, ASC, "The Californians"* (Desilu Prods.) with Richard Coogan. Various directors.

● CHARLES BURKE, "This Is Alice"* (Desilu Prods.) with Patty Ann Gerrity. Sidney Salkow, director.

● ROBERT DEGRASSE, ASC, "Danny Thomas Show"* (Desilu Prods.) with Danny Thomas. Sheldon Leonard, director.

● STU HICKOX, ASC, "December Bride"* (Desilu Prods.) with Spring Byington and Frances Rafferty. Frederick DeCordova, director

● PAUL IVANO, "Desilu Playhouse"* (Desilu Prods.) Various directors

● HAROLD LIPSTEIN, ASC, (Desilu Playhouse"* (Desilu Prods.) Various directors.

● NICK MUSURACA, ASC, "The Line Up"* (Desilu Prods.) with Warner Anderson and Tom Tully. Various directors.

● JOE NOVAK, ASC, "The Walter Winchell File"* (Desilu Prods.) with Walter Winchell. Alvin Ganzer, director, "The Texan"* (Desilu Prods.) with Rory Calhoun. Alvin Ganzer, director

● KENNETH PEACH, ASC, "Lassie"* (Jack Wrather Prods.) with Jon Provost and June Lockhart. Lesley Selander, director

● ROBERT PITTACK, ASC, "Ann Sothern Show"* (Desilu Prods.) with Ann Sothern. Sidney Miller, director.

● CLARK RAMSEY, ASC, "Wyatt Earp"* (Desilu Prods.) with Hugh O'Brian. Frank MacDonald, director, "U.S. Marshall"* (Desilu Prods.) with John Bromfield. Harve Foster, director.

● LOTHROP WORTH, ASC, "The Real McCoy's"* (Brennan-Westgate Prods.) with Walter Brennan. Hy Averback, director.

MPO STUDIOS, New York City

● ZOLT VIDOR, ASC, miscellaneous commercials*

PARAMOUNT

● HASKELL BOGGS, "The Geisha Boy" (Technicolor) with Jerry Lewis and Marie MacDonald. Frank Tashin, director.

● STANLEY CORTEZ, ASC, "Between the Thunder and the Sun" (Seven Arts Prods.) with Susan Hayward, Jeff Chandler, and Jacques Bergerac. Russell Rouse, director

● DANIEL FAPP, ASC, "The Trap" (Parkwood Ent., Heath Prods.) with Richard Widmark and Lee J. Cobb and Tina Louise. Norman Panama, director

● BORIS KAUFMAN, ASC, 'That Kind of Woman' (shooting in N.Y.) with Sophia Loren and Tab Hunter. Sidney Lumet, director

PARAMOUNT SUNSET

● ALAN STENSVOLD, ASC, 'Night Court"* (Sandy Howard Prods.) with Jay Jostyn. Sandy Howard director

● LESTER WHITE, ASC, "Rescue"* (Cinefilm, Inc.) with Jim Davis. William Hole, director

REPUBLIC STUDIOS

● LIONEL LINDON, ASC, "Restless Gun"* (Window Glenn Prods.) with John Payne. Edward Ludwig, director, 'General Electric Theatre"* (Revue Prods.) Don Weis director; "Alfred Hitchcock Presents"* (Revue Prods.) Robert Stevens, director.

● JACK MACKENZIE, ASC, 'Mickey Spillane's Mike Hammer"* (Revue Prods.) Various directors

(Continued On Page 548)

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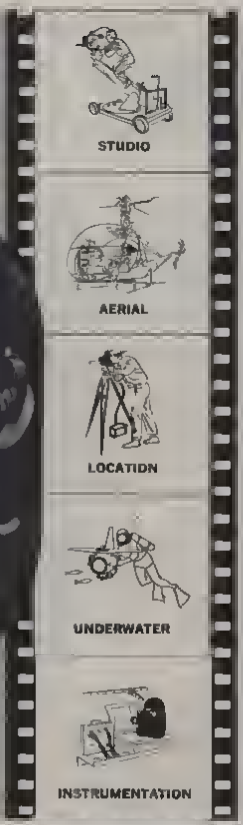
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HIGHLIGHTS of the CAMERETTE

- Vivid reflex viewing during filming Permits accurate framing, focusing
- Magazine loading 100 to 1,000 ft capacity
- Instantly converted from 16mm to 35mm
- Light, portable, only 14 lbs with motor, 3 lenses and 400 ft magazine
- Divergent 3-lens turret
- Wide variety of lenses, from 18 5mm to 500mm focal length Also zoom type
- Double system synchronized magnetic sound is available Studio quality
- Variable speed or synchronous motors
- Magnesium blimp has all controls, including reflex viewer, on outside
- Precision instrumentation accessories available
- Aquaflex housing makes Camerette the ideal underwater camera
- Fits standard tripod

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Ansco

Professional Motion Picture

WHAT'S NEW

. . . in equipment, accessories, services



Quadlite

Mole-Richardson Company, 937 No. Sycamore Ave., Hollywood 38, Calif., announces the Quadlite, a handy, versatile floodlight source utilizing reflector photofloods. Unit is ten inches square and two inches thick and has four recessed receptacles to take the lamps. Unit mounts on a Baby Pedestal and may be tilted in any direction when used with a quadrant furnished as accessory. Provision is also made for stacking, as shown above, by means of stacking-posts. Each lamp socket is controlled by separate switch.



Remote Control Pan-Tilt

Camera Equipment Co., New York, N.Y., announces its new CECO remote control pan and tilt assembly designed for industrial TV and Vidicon cameras where directional remote control is desired. Unit also has applications in cinematography. Pan and tilt can be operated independently or simultaneously. "Dialastop" limiting switches permit pre-setting travel of pan or tilt movement. Made of high-tensile aluminum alloy, unit features ball-and-needle bearings throughout. Micro Limit switches, and high-torque motors. Will take cameras up to 20 lbs. Data sheet is available from the company.



Camera Trigger-grip

Owners of Filmo 70 and 240TA cameras will be interested in the NCE Trigger-grip handle now available for these cameras from National Cine Equipment Co., 209 West 48th Street, N. Y. 36, N. Y. Contour of handle permits steady support of camera with one hand while depressing trigger (arrow) that operates camera with the other. Spring-loaded shutter release depresses hook extension over top of the Filmo camera to actuate regular starting button. Unit attaches to camera by means of conventional tripod screw. Cast aluminum construction, brown wrinkle finish. List price, $29.95.

Taylor-Hobson-Cooke Lenses

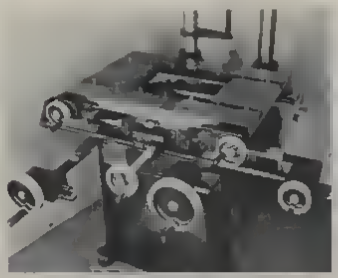
Albion Optical Company, 1410 No. Van Ness Ave., Hollywood 28, Calif., has been named sole agent for U. S. and Canada for Taylor-Hobson-Cooke lenses for motion picture cameras. Introduced this month is a new range of lenses "designed to meet present-day requirements in the field of motion picture production." These are in two groups: the Speed Panchro Series II for 35mm cameras and the Kinetals for 16mm professional cameras. All lenses are available unmounted or in Taylor-Hobson designed mounts.



Hi-speed Recording Camera

Traid Corporation, 17136 Ventura Blvd., Encino, Calif., announces an improved version of the Photo Sonics rotary-prism high-speed 16mm recording camera that features full-frame motion pictures at speeds to 1000 f.p.s. Light and compact, it performs under extremes of temperature and vibration. Rotary prism provides image compensation, and the disk shutter — located between prism and film — produces even exposure and high image resolution.

Standard equipment includes heater, two timing lights, 3 sets motor reduction gears, 100-ft. magazine and carrying case. Data sheet and price may be had by writing manufacturer direct.



Animation Compound

A new animation compound is announced by The Warren Conrad Portman Co., 41 MacQuesten Pkwy., N., Mt. Vernon, N. Y. Compound features 19-inch North-South and 26-inch East-West movements which are completely ball-bearing mounted. The 20" x 28" mahogany table top has two peg tracks with 22-inch travel. Table top rotates 360°. A 9" x 15½" orifice affords rear projection. Compound may be used with any camera stand. List price is $1,790. ■

BOOKS, CATALOGUES & BROCHURES

Available From Equipment Manufacturers

How To Add Sound

"Magnetic Sound For 16mm Motion Pictures" is new 68-page publication by Eastman Kodak Co., Rochester, N.Y., covering all the facets of preparing magnetic sound-on film movies

Sections in the book discuss basic equipment for making sound films, script preparation, camera techniques when shooting for sound, basic recording techniques, use of microphone, narrating, editing for sound, and obtaining optical prints from magnetic sound films. Fully illustrated with photographs and diagrams, book is available through Kodak dealers List price is 50¢

Book List

Camera Equipment Co., 315 West 43rd St., New York, N.Y., has prepared a brochure listing over 60 books devoted to motion pictures and television production which the company now markets as an adjunct to its equipment sales and services Copies are free

Exposure Meter Folder

A new 10-page folder describing the photoelectric exposure and color temperature meters made by the West German Gossen Company is offered free by Kling Photo Corporation, 257 4th Ave., New York 10, N.Y., U.S. distributors for the Gossen meters. Explained in easy-to-understand terms is difference between incident and reflected light readings and the complex makeup of photoelectric meters used in light evaluation.

Eastman Films

A folder containing a 56-page booklet giving general information on Eastman Motion Picture Films and a packet of individual specification sheets on black-and-white and color films has just been issued by Eastman Kodak Co., Rochester, New York. Both the book and the individual pages are punched to fit the standard Eastman Kodak Data ring binder

The new booklet differs from previous editions in that the specification sheets for the individual films are printed and supplied separately List price is $1.25.

Recommended Books

"Books We Recommend and Sell" is title of 6-page brochure just issued by Mole Richardson Company, 937 No Sycamore Ave., Hollywood 38, Calif., manufacturers and distributors of motion picture set lighting equipment. Increasing inquiries for a source of books on various fields of motion picture production, resulted in the M R company adding books to its merchandise line.

Listed and described are over 80 titles that deal in various phases of film production, photography and television. Copies may be obtained free by writing the company direct.

Film Daily Year Book

Off the press is 1958 edition of the Film Daily Year Book of Motion Pictures, which is given without charge to all paid subscribers of *Film Daily* and sold to non subscribers for $15.00 per copy.

Volume, which has been issued yearly for over two decades, contains statistical and informative data on the U. S. motion picture industry and related fields It places at the fingretips of manufacturers, dealers, executives, producers, distributors, and all others interested in the film industry a wealth of valuable information

Filter Data

When, why, and how to use Ednalite filters and closeup attachments with cine cameras is information contained in illustrated folder available free from Ednalite Optical Co Inc., Peekskill, N. Y Charts show what filters to use with daylight color films, with tungsten color films, and black-and-white films

Anamorphic Lens Data

Newvision, Ltd., 22b Ebury St., London, S W 1, England, has issued an attractively illustrated 4-page folder describing the company's line of Cinevision supplementary anamorphic units for motion picture photography and projection The company manufactures anamorphs for 8mm, 16mm, and 35mm cameras and projectors. Copies are free Direct inquiries to the company's Cinevision Division. ■

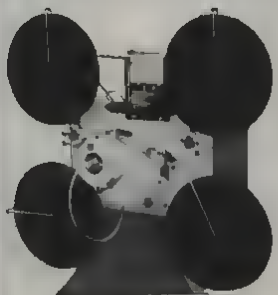






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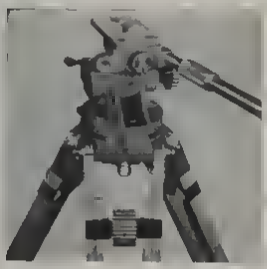
PROFESSIONAL continuous contact sound and picture printer for double 8mm and 16mm films. Designed for color, black and white, reversal, sound or silent films. TEL Amatic does all with rock-steady professional precision. Has outstanding features never achieved before in the low cost field.

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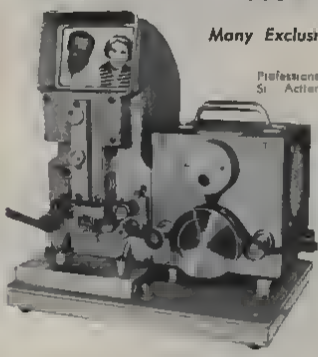
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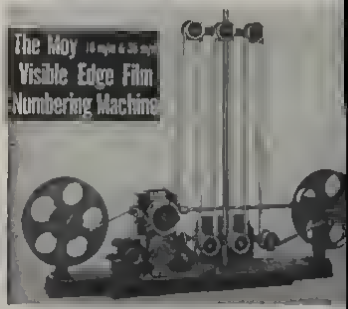
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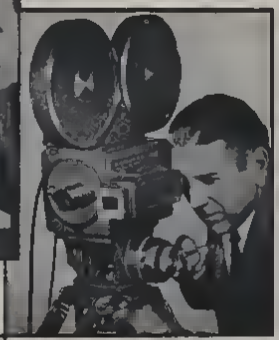
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or 16mm Optical Sound - On - Film



uricon Pro-600" with Lens mping Hood, Auto Parallax nder with Magazine, Tripod

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uricon Pro 600" with Critical ound-Glass Focusing, 3-Lens Turret

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★ 600 ft film Magazines with Auricon Electrematic Take up for 16 minutes of continuous Talking Picture filming

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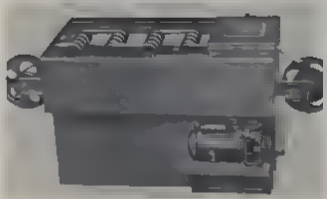
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16/35mm

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TECHNICAL QUESTIONS & ANSWERS



Conducted by Walter Strenge, A S C.

QUESTIONS relating to cinematography or other phases of film production are invited from readers and will be answered by letter by Walter Strenge or by other qualified members of the American Society of Cinematographers. Questions and answers considered of general interest will appear in this column.—*Ed.*

Q Is a color temperature meter essential to good cinematography for 16mm industrial productions?—*B. S., Lakeland, Fla.*

Answer In black-and-white photography, three measurements are necessary to assure a good negative: 1) illumination, 2) lighting contrast, and 3) brightness ratio. In color photography one more measurement has to be taken—that of color temperature in Kelvin degrees. When viewing the final result of color photography on a projection screen, the average observer can detect differences in color temperature in indoor scenes of from 50° to 100° Kelvin, and differences of up to 500° Kelvin in outdoor scenes.

It is noted from your question that you are shooting 16mm industrial productions and it is presumed that you make prints from the original. Small differences in color temperature can be taken care of in the processing laboratory. Big differences, however, should be corrected before you start to shoot. A good color temperature meter is just as essential as an exposure meter when shooting Kodachrome.—*Karl Freund, A.S.C.*

Q What is the scope and function of the Special Effects department of a motion picture studio?—*D. C., Yuma, Ariz.*

Answer: To outline the exact operation of the Special Effects departments in the Hollywood studios would be very nearly impossible, as each studio operates its effects departments in a different manner.

The term "special effects," as used in Hollywood, covers such things as lighting a fire in a fireplace, the laying of artificial fog, and creating a rainstorm or an earthquake, etc. The term also applies, in many studios, to all of the miniature work, the optical printing, and the matte painting work. However, the more exact term for the latter is Special Photographic Effects.

In some studios, there is a Special Effects Department (devoted to the effects outlined above) and a Special Photographic Effects department. Also, in some studios, the Prop Shop produces all full-scale and miniature effects.—*John Fulton, A.S.C.*

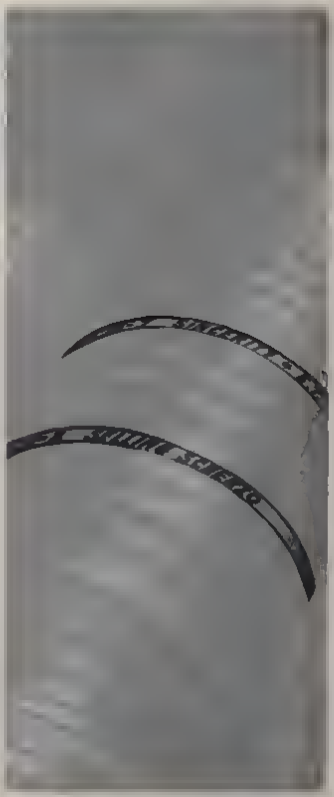
Q I have approximately 500-ft. of movie film shot with an old French Pathe cine camera sometime during the 20s. The film is 9.5mm with a single perforation down the center between the frames. Where in the U.S. can I have this film copied on 8mm stock at reasonable cost?—*J. H., New York, N. Y.*

Answer I believe that the George Colburn Laboratory, 164, No. Wacker Drive, Chicago 6, Ill., can render the service you desire.—*Walter Strenge, A.S.C.*

Q When shooting Kodachrome out of doors, should a CC filter be used in addition to the Wratten No. 83 filter to balance color when shooting early in the morning or late afternoon? Can one be of gelatin and the other glass?—*S. J. M., Featerville, Penna.*

Answer Purpose of the No. 83 filter is to convert daylight to the proper color temperature for Kodachrome. When shooting from morning to late afternoon, color temperature of daylight changes progressively. Therefore, to obtain optimum color rendition in your photography at all times, it would be necessary to take color temperature readings of the daylight at intervals, as well as exposure readings, then, with the proper filters, make the necessary corrections of the light to effect consistent results.

As regards the filters, both glass and gelatin filters give good results, and the two types can be used together with success. Glass filters should be optically ground to insure definition of image.—*Ted Fogelman, A.S.C. Associate.*



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HOLLYWOOD BULLETIN BOARD

Although the ASC clubhouse in Hollywood has been relatively quiet during July and August—what with summer vacations and no monthly dinner meetings—there is nevertheless a buzz of activity emanating almost daily from the board room where the entertainment committee has been putting together plans for the Society's forthcoming Annual Ladies Night Dinner and Dance. This will be held Saturday evening, October 11, in the Mayfair Room of the Beverly Wilshire Hotel in Beverly Hills.

• • •

ASC members were saddened in recent weeks by the sudden passing of three of their associates—Joe Novak, George H. Robinson, and Irving Glassberg.

Novak, 66, died of a sudden heart attack while working on the set. He was director of photography for Sharp & Lewis Productions, shooting TV films at the Desilu Culver City studio.

Robinson, 68, died following a lingering illness and hospitalization. He was for years a director of photography at Universal-International studios and photographed almost all of the Abbott and Costello comedies.

Irving Glassberg, who would have been 54 in October, died of a heart attack at the hospital where he had been confined following an illness attack on the set of Hecht-Hill-Lancaster's "Cry Tough," which he had been photographing. He had been a cameraman at Universal-International for almost a quarter of a century.

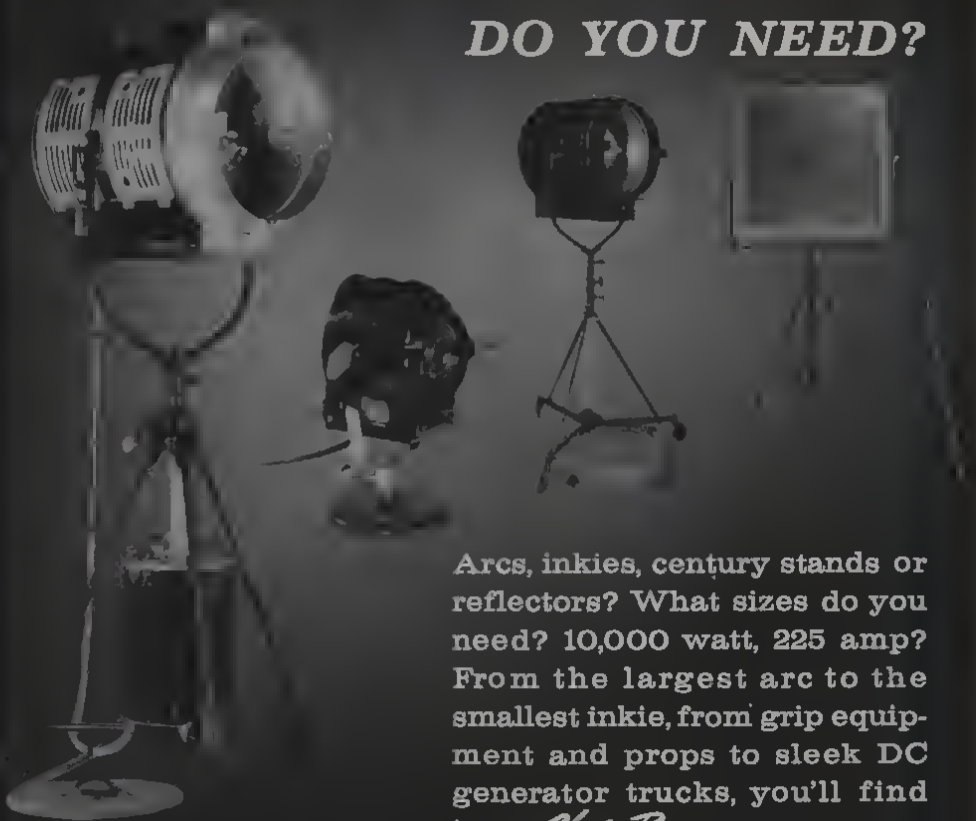
• • •

Because Sam Goldwyn decided to do "Porgy and Bess" in Todd-AO and wanted a cameraman with experience in the Todd-AO process to photograph the picture, Ellsworth Fredericks, who was originally signed to direct the photography was released and Leon Shamroy signed in his place. Shamroy directed the photography of 20th Century Fox's "South Pacific" in Todd-AO and achieved some remarkable color results.

• • •

Virgil Miller, ASC, who resumed directing the photography of the Groucho Marx show, "You Bet Your Life," for the fifth consecutive season on September 3rd, on that day also celebrated his 45th year in the motion picture business.

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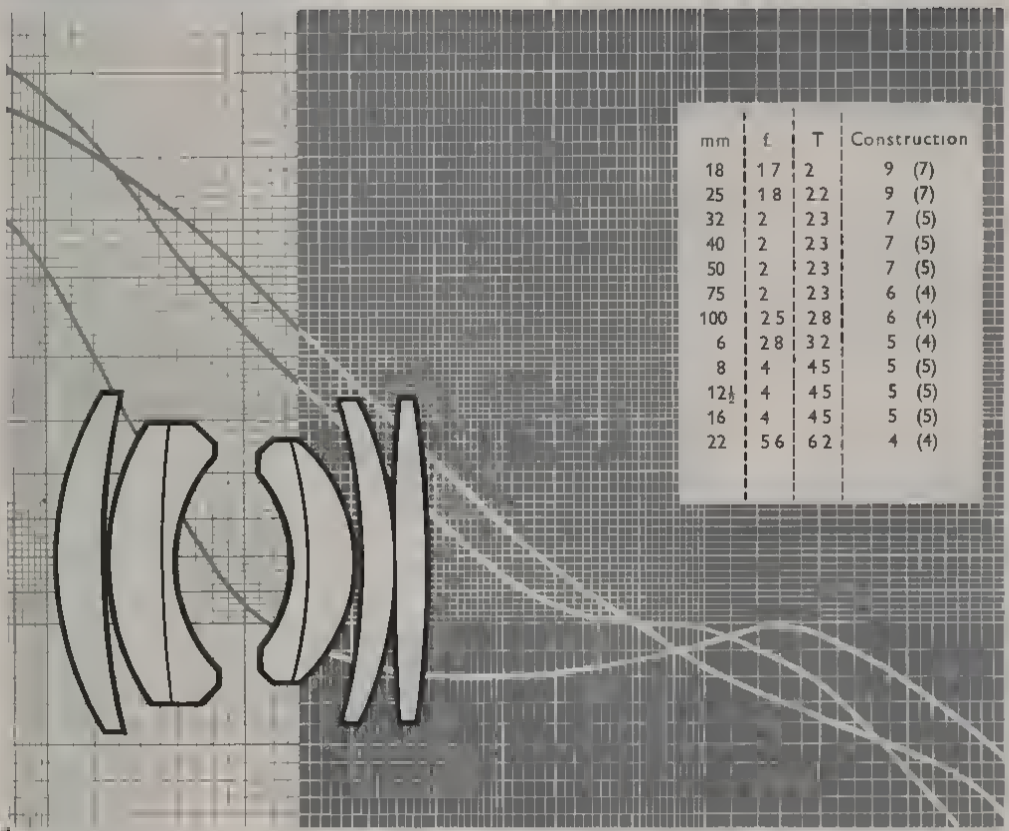
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8	4	4 5	5 (5)
12½	4	4 5	5 (5)
16	4	4 5	5 (5)
22	5 6	6 2	4 (4)

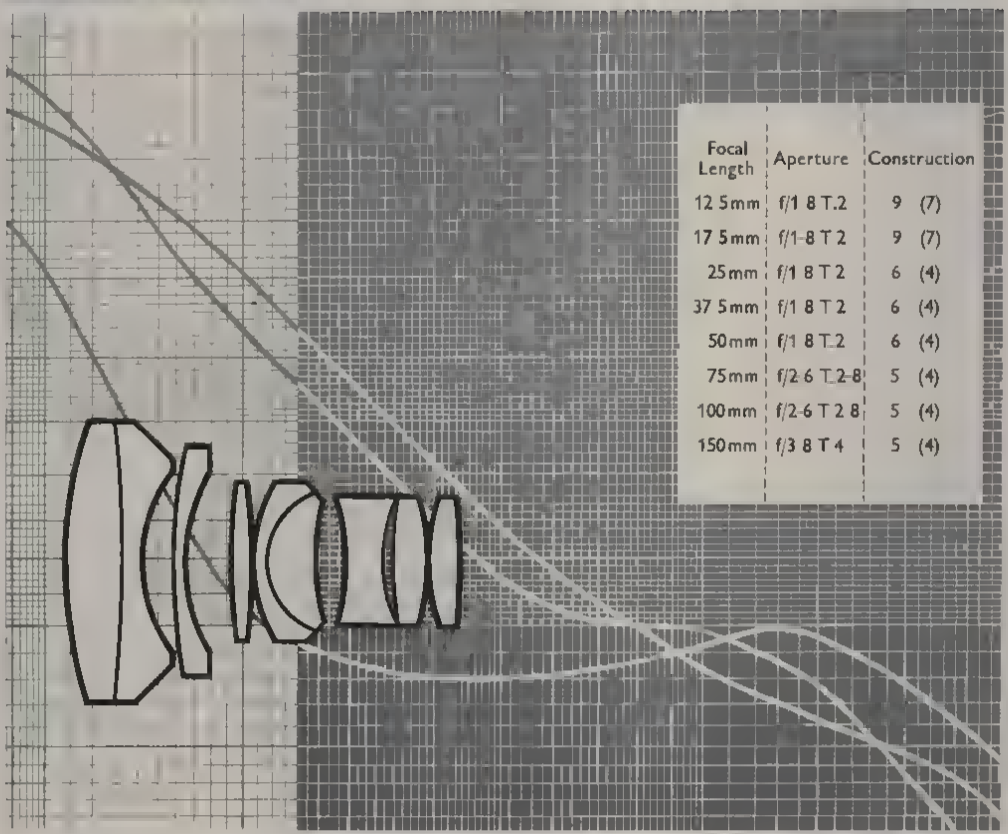
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75mm	f/2 6 T.2-8	5 (4)
100mm	f/2-6 T 2 8	5 (4)
150mm	f/3 8 T 4	5 (4)

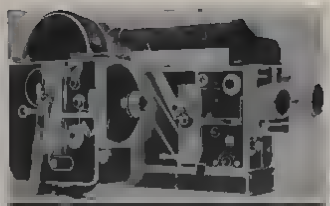
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PHOTOGRAPHIC ASSIGNMENTS

(Continued From Page 530)

REPUBLIC STUDIOS

• ARCH DALZELL, Wells Fargo"* (Overland Prods.) with Dale Robertson. Earl Bellamy, director

• BENJ KLINE, ASC, Wagon Train"* (Revue Prods.) Various directors

• H F KOENEKAMP, ASC, Schlitz commercial* Mel Dellar, director

• JOHN NICKOLAUS, "Gun in the Dust" (Albert C Gannaway Prods.) with Corinne Calvert and John Carroll Albert C. Gannaway, director.

• RAY RENNAHAN, ASC, "General Electric Theatre"* (Revue Prods.) Don Weis, director

• JOHN RUSSELL, ASC, "Alfred Hitchcock Presents"* (Revue Prods.) Various directors. "M Squad"* (Latimer Prods.) with Lee Marvin Various directors.

• WILLIAM SICKNER, ASC, "Bachelor Father"* (Bachelor Prods.) with John Forsythe John Newland, director, "Buckskin"* (Revue Prods.) Herschel Daugerty, director

• MACK STENGLER, ASC, "Schlitz Playhouse"* (Revue Prods.) John Brahm, director, "Buckskin"* (Revue Prods.) David Butler, director

• ELLIS THACKERY, ASC, "Restless Gun"* (Window Glenn Prods.) with John Payne Justus Addiss, director, "Wells Fargo"* (Overland Prods.) with Dale Robertson Earl Bellamy, director

• STUART THOMPSON, ASC, "D.A. Men"* (Pilot, Mark VII Ltd.) Joseph Parker, director

HAL ROACH STUDIOS

• EDWARD FITZGERALD, ASC, "The Gale Storm and ZaSu Pitts William Seiter, director

20TH CENTURY-FOX

• CHARLES CLARKE, ASC, "The Sound and the Fury" (CinemaScope & Color, Jerry Wald Prods.) with Yul Brynner and Joanne Woodward Martin Ritt, director.

• WILFRID CLINE, ASC, "Mardi Gras" (CinemaScope & Color) with Pat Boone and Christine Carrerre Ed Goulding, director.

• FLOYD CROSBY, ASC, "I, Mobster" (Edward D Alperson Prods.) with Steve Cochran and Lita Milan. Roger Corman, director

• WILLIAM MELLOR, ASC, "The Diary of Anne Frank" (CinemaScope) with Millie Perkins and Joseph Schildkraut. George Stevens, producer director

• ...LON SHAMROY, ASC, Rally 'Round the Flag, Boys!" (CinemaScope & Color) with Joanne Woodward and Paul Newman Leo McCarey, director

• LEO TOVER, ASC, "In Love and War" (CinemaScope & Color) with Robert Wagner and Dana Wynter. Philip Dunne, director

UNIVERSAL-INTERNATIONAL

• ARTHUR ARLING, ASC, "Steve Canyon"* (Pegasus Prods.) with Dean Fredericks. Don Taylor, director, "Peter Gunn"* (Sparta Prods.) with Craig Stevens Various directors

• JAMES DROUGHT, Chesterfield commercial* Virgil Vogel, director

• IRVING GLASSBERG ASC, Mercury and Joy commercials* & Jack Daniels, director

• PHILIP LATHROP, "Rawhide"* (CBS TV) with Eric Fleming. Various directors.

• RUSSELL METTY ASC, "Imitation of Life" (CinemaScope & Color) with Lana Turner and John Gavin. Douglas Sirk, director

• CLIFFORD STINE ASC, Campbell commercial* Wil Cowan, director

WARNER BROS.

• WESLEY ANDERSON 'Cheyenne"* with Ty Hardin Various directors

• JOSEPH BIROC, ASC, "The FBI Story" (Technicolor) with James Stewart and Vera Miles. Mervyn LeRoy, director

• ELLIS CARTER, ASC, "Bell Science Series"* Robert Sinclair, director, American Gas Industrial commercial* Robert Sinclair, director

• EDWIN DUPAR, ASC, "Cheyenne"* with Ty Hardin Various directors

• ARTHUR FEINDEL, ASC, Kaiser Aluminum commercial* Albert Townsend, director, American Gas Industrial commercial* Dave Monahan, director.

• CARL GUTHRIE, ASC, "Up Periscope" (WarnerColor) with James Garner, Edmond O'Brien and Joanna Barnes Gordon Douglas, director

• MICHEL KELBER, "John Paul Jones" (Technicolor, John Paul Jones Prods.; shooting in Spain) with Robert Stack, Charles Coburn and Erin O'Brien John Farrow, director.

• TED MCCORD, ASC, "The Hanging Tree" (Technicolor, Baroda Prods., shooting in Washington) with Gary Cooper and Maria Shell Delmer Daves, director

• HAROLD STINE, ASC, "Sugarfoot"* with Wil Cutchins. Various directors, "Lawman"* with John Russell. Various directors.

• HARRY STRADLING, ASC, and ERNEST HALLER, ASC, "The Miracle" (Technirama- Technicolor) with Carroll Baker and Walter Slezak Irving Rapper, director

• RALPH WOOLSEY, ASC, "Lawman"* with John Russell Stuart Heisler, director, "Cheyenne"* with Ty Hardin Alan Crosland, director

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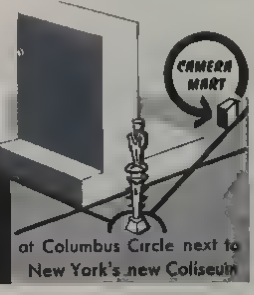
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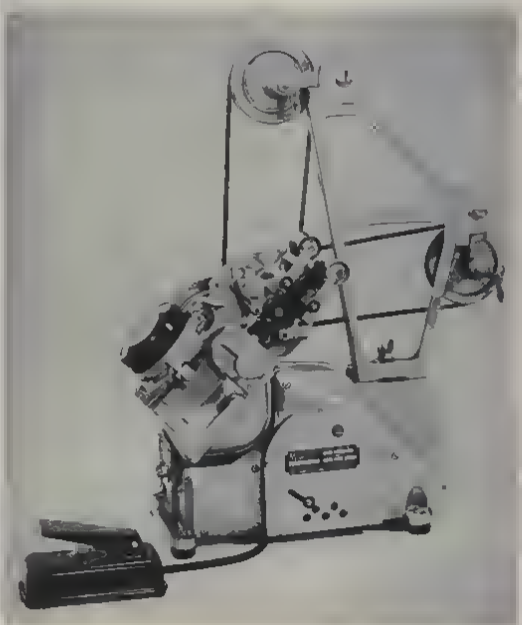
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THE CAMERA CREW rests while director Peter Glenville (center, in leather coat) briefs Curt Jurgens and Akim Tamiroff for a location scene in Lyon, France, for "Me And The Colonel"



DIRECTOR OF PHOTOGRAPHY Burnett Guffey ASC, (behind camera) watches director Glenville (out of picture) line up his players for a street scene in Paris

RURAL ROUTE FOR REALISM

Burnett Guffey, ASC, filmed exteriors for "Me And The Colonel" in 600-mile cross-country trek from Poris to the Sponish border.

By ARTHUR E GAVIN

BECAUSE AUTHENTICITY of locale and backgrounds was vital to the story, Columbia Pictures elected to shoot all exteriors and some of the interiors for "Me And The Colonel" in France—in the approximate locations named in Franz Werfel's original play, "Jacobowsky And The Colonel," from which the screenplay was adapted.

The World War II story concerns two men—a mild-mannered Jew and an anti-Semitic Polish Colonel—who find it expedient to flee Paris as the Germans advance upon the beleagured city. Circumstances throw the two together and force them to share each other's company in the flight, which takes them from Paris to the Spanish border. En route, all sorts of situations develop, comical and otherwise, and the

picture becomes sort of a travelogue through France, filmed as it was in various locales along the way—a trek that took the production company some 600 miles over a period of 38 days, shooting in 57 different locations

Directing the photography was Burnett Guffey, A.S.C., who won an Academy Award in 1953 for black-and-white photography of "From Here To Eternity." "Me And The Colonel" is in black-and-white, too—photographed in the aspect ratio of 185-to-1. It is the first time that a picture starring Danny Kaye has not been filmed in color. And there was a reason for this Time of the story is the summer of 1940. However, the studio was unable to start the picture until late autumn of 1957. To have photographed "summer" exteriors in color in autumn with its preponderance of leafless trees, etc., would have made the season obvious In black-and-white the seasonal difference is hardly noticeable

Photographing a picture in Europe—especially in France no longer poses the production problems it once did Today, Guffey says, filming in France is as simple as filming in most location areas in the United States This is because European technicians are now better trained, and there is plenty of modern equipment to be had. For this production, Columbia Studios shipped only its cameras overseas. All lighting and grip equipment was rented from Paris studios or local companies devoted to studio rentals.

The key to economical shooting on overseas locations, says Guffey, lies in rigid pre-production planning and careful scouting of location sites "Before we turned a camera," he said, "we spent ten days scouting locations, traveling by plane, train and automobile—the latter, part of a six-car location caravan Previously, the area had been 'pre-scouted' by the producer, director and art director. They had selected tentative sites and general locations Our group finalized everything. We pin-pointed each location, decided the direction we would shoot and at what time of day, and decided what additional set construction was necessary on the various locations. Because it wasn't practical for us to shoot scenes on the actual Spanish border, the studio erected a replica of the border location on French soil. Thus, when we were prepared to shoot, we knew exactly what we were going to do

"When you are on location and have several hundred paid extras standing around ready for work," Guffey explained, "you don't want to spend half the morning trying to figure out where the camera and lights should be set up All this was planned on the scouting trip, so that when we arrived at each of the locations, we were able to get the cameras rolling without delay."

"Although the bleak, cold weather was our major problem, we were never greatly delayed because of it We were always prepared to shoot, regardless of the weather encountered, because we had ample lights to take care of any situation. We also carried along a supply of sunlight reflectors, but because we saw so very little bright sunshine on this trip, we had little opportunity to use them All this equipment, along with personnel, made up quite a caravan. We had 48 pieces of rolling stock consisting of automobiles, buses, trucks, plus three mobile generators. We traveled by bus most of the time; but on long jumps we used planes or the train Perhaps the most popular vehicle in our caravan was the studio's chuck wagon, which followed us everywhere and never failed to supply an excellent hot lunch"

(Continued On Page 576)



BRIGHT SUNNY DAY—one of the few encountered on French locations—aids photography of this scene of refugee gathering in village of Aramon, France Danny Kaye (center) listens to last minute instructions from director before camera rolls

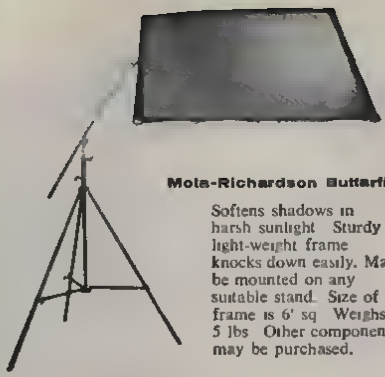




CENTER PHOTO—Example of lighting achieved in location interior Here bright sunshine coming through a large window was simulated with aid of heavy-duty arc lamps

BOTTOM PHOTO—Example of one of many process shots made at studio, using background plate filmed in France.

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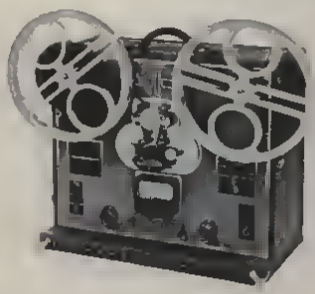


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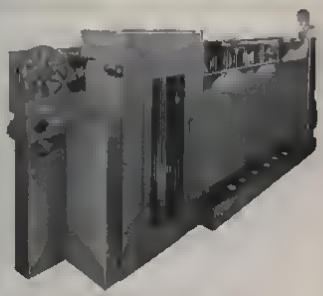
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LONG TRACK FOR A DOLLY SHOT

Baris Kaufman, ASC, used 300-foot track far moving-camera shots in railway station far Paramaunt Pictures' "That Kind af Waman."



THE DOLLY-MOUNTED Mitchell camera poses actresses Sophia Loren and Barbara Nichols walkma alongside coash (seater) as crew of grips provides motive power for the dolly Scene is Long Beach station, Long Island, N Y, which doubled for Miami railway station for ssenes for "That Kind of Woman"



ONE TAKE completed, most hands walk long route back to begin another shot, while the Misses Loren and Nichols ride the dolly along with director Sydney Lumet (2nd from right) Director of photography Kaufman (left foreground) elected to walk Details of track construction are shown in this and phole above

A DOLLY SHOT became a formidable engineering problem for Boris Kaufman, A.S.C., and his camera crew a few weeks ago, when the Ponti-Girosi Company moved to the Long Beach, Long Island, railway station to film scenes for "That Kind of Woman" for Paramount Pictures.

Because the rough and uneven pavement of the station corridor made it impractical to use a free-wheeling camera dolly for these shots, it became necessary for Kaufman's crew to assemble one of the longest dolly tracks on record on the East Coast—300 feet in extent—so that essential moving camera shots of actresses Sophia Loren and Barbara Nichols could be accomplished.

Although the latest type channel aluminum tracks were used, it first became necessary to lay a sub-track of wooden planks upon two-by-four ties spaced at three-foot intervals. Wooden wedges were used to compensate for short irregularities in the corridor surface—driven under the sub-track structure as required until the dolly tracks lay smooth and even. The latter were bolted to the sub-track upon its completion

Purpose of the lengthy dolly shot was to carry the main action from inside the station (doubling for the Miami, Florida, railway station), out along the full length of the train, thence inside the first car—through the atmosphere of milling soldiers and sailors and tearful partings of wives and sweethearts with servicemen going off to war.

Opposite the long line of stainless steel coaches and adjoining the dolly tracks, a number of flat cars served conveniently as parallels on which were mounted a number of lights and reflectors. These were positioned at an angle of about 45 degrees to the row of coaches against which the action was to be staged No fill lights were used.

"It was found that the bright surface of the steel coaches reflected just the right quality of light which, along with light from the sky provided all the fill that was necessary," Kaufman explained.

"Light balance was a problem, how-

(Continued On Page 586)

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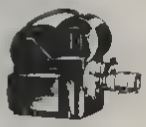


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ANIMATED FILM TECHNIQUES

Part III: Planning the Staging and Setting

By CARL FALLBERG



THE LAYOUT-MAN is one of two artists who does important preliminary work on all animated cartoons produced for theatrical release. It is he who designs the production and visualizes the overall graphic presentation of the story. His role is same as the art director's in a live-action film. (All illustrations © by Walt Disney Prod.)

THE FUNCTION AND SCOPE of the animated cartoon director and the importance of music and timing in the preparation of animated films were the subjects discussed here last month. In this chapter we will take up the functions of the *layout man*, whose position is similar to that of art director in a live action production, but with a little of the director's responsibility and that of the director of photography added.

Concurrent with the timing of the animated cartoon by the director, the layout man plans the staging and the setting. He plans the exact pictorial locale of each scene, the size and movements of the characters, figures out all of the camera moves such as trucks (moving toward or back from a character) and pans (following a character along). He considers interesting ways to present the artistic side of a scene—special effects, atmosphere shots, interesting camera-angles, and so on.

The layout-man must be an all around artist, being fully acquainted with perspective, rendering and architecture. A good sense of story, comedy and dramatic values is necessary in order to be able to stage the picture so that its pictorial side works in complete accord with the action. He must be able to draw anything in the way



THE BACKGROUND ARTIST renders up in color the finished backgrounds that the animation cells will "work against."



LAYOUT-MAN'S sketch of a finished set-up for Walt Disney's "Bambi," with the path of the character's action illustrated with the figure shown in multiple. After original suggestions for background were developed into forest scene, the plan called for pulling back camera to stress smallness of Bambi against forest

of props or backgrounds—modern, prehistoric or futuristic.

The story man usually takes a stab at staging the picture in regard to cuts, size of characters, set-ups and direction of action, but he cannot spend the additional time necessary to work out the finished pictorial effect of the picture. He's mainly concerned with presenting his ideas in the simplest, clearest and most direct form. If he were to worry too much about finished set-ups or the mechanics of production, it's likely that he'd be sidetracked from the story line.

But often enough, the cutting and staging outlined on the story boards provides a good pattern pictorially as well as dramatically, and the layout man's chief job is then to design practical, working setups for the animator. If he possesses good story sense, he can often add to the presentation of a piece of business by designing the staging in an interesting fashion, suggest an additional cut or closeup to point up a gag, or work out atmospheric effects to supplement the mood of a scene, thus helping the story not only to read clearly, but interestingly as well.

Many considerations enter into the designing of a set-up in which a character's action is to take place. The set-up must be pleasing pictorially, yet be practical so that the animator can move his character around with ease and freedom. It must be designed so that the character will be of a practical size to animate. Very large figures, or very small ones, are difficult to handle as are characters that work in set-ups with the camera shooting up or down at them from an extreme angle. In a word, the layout man must compromise constantly between aesthetic values and practical necessities.

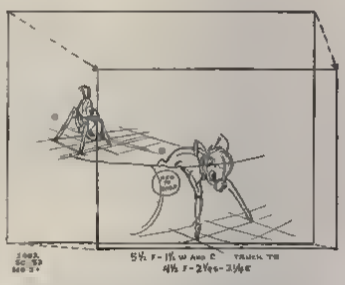
It is timely at this point to introduce another important member of the animation production team—the background artist—and explain his function and how it relates to that of the layout-man. The background man's special job is to render up in color the finished backgrounds that the painted cels will work against. He exercises no particular creative initiative, but follows the toned pencil sketches of the backgrounds prepared by the layout man, reproducing them faithfully for size and set-up in water-colors or oils.

Reproduced at top of this page is a simple, yet characteristic example of the progressive stages that a story idea goes through in production. The set up sketch that the layout-man designed follows the first-hand suggestions of the story sketch artist for direction of action, but improvements in the staging of the scene were subsequently developed to add to the dramatic and pictorial effect.

First, the rough suggestions for the background were developed into a well-rendered forest scene. Then instead of keeping a close shot on the character, Bambi, the plan called for pulling the camera back to a medium shot, for the purpose of stressing the smallness of the baby deer in relation to the huge forest around him, and to punch up his problem of hopping over the large log.

The size of a character is governed only by his relationship to objects of a known size around him, and the best way to dramatize the littleness of the deer was to keep him small in the set-up. This is one example of the way the layout-man can help put across a story idea by the proper design of the setting.

The animator is provided with a tracing of the layout-man's background, along with a series of rough poses to indicate the exact path of action of a character, as well as careful indications for sizes and perspective. (See example illustrated on this page.) The position of the camera at the start and finish of the scene is also shown, established by the layout-man with an eye toward the best composition of the scene. While the animator is free to move the camera around to suit the action of his character, he must maintain good composition at all times.



SKETCH prepared as guide in animation scene detailed above. Position of camera at the start and finish of the scene is shown. Symbols below sketch give specific instructions to animator that results in achieving action pattern devised by layout-man

Every procedure concerned with the production preparation of a picture is overlapped in order to move the story

(Continued On Page 583)



AUTHOR-CAMERAMAN Woxholt (left) chats with actor Laurence Harvey during filming of underwater scenes for "The Silent Enemy"

UNDERWATER CINEMATOGRAPHY

By EGIL S WOXHOLT



TYPICAL UNDEWATER SCENE from Remus Films' "The Silent Enemy" photographed in Mediterranean location by Emil S Woxholt Action shows British frogmen, following exhausting fight with Italian frogmen, leaving sunken aircraft after rescuing briefcase containing valuable papers,

FROM THE FROZEN waters of the Baltic to the coral paradise beneath the clear, Red Sea, much can be learned about underwater photography. Slipping over the side of a naval diving launch in a narrow Swedish fjord in the month of May may not sound such a bad pastime, but with the last flow of ice having drifted by only weeks previously, the water is still a chilly 40° F.

As you shiveringly take a reading with your water-proofed exposure meter and wait for the underwater actors to appear, you have ample time to dream longingly of a warm Finnish Sanna bath, a sunny tropical beach or even the life of a normal cameraman!

One of the important lessons the underwater cameraman learns early is *keep warm!* I was therefore elated to find (and quickly adopted) the diving apparel designed and used by the Swedes This is a snug one-piece undersuit of wool and Nylon, with socks attached Over this goes a two-piece rubber suit with attachable rubber gloves Keeping one's innards warm is important, too! Only hot foods are worth bothering about—soups, sweet coffee, raisins, etc. These provide a maximum of calories and quickly convert to needed energy—with a minimum displacement of the



WOXHOLT in action, filming scene with Arriflex-35mm camera showing divers locating sunken aircraft just before they are intercepted by Italian frogmen.

stomach. The amount of food required when working under water is tremendous. It is said that a diver working in cold waters needs more food calories per day than a foundry worker

Normally, the Baltic is not the place one would recommend for underwater film making. The sea bed is full of slime and dirt, and the water exceptionally brackish Any swimming activity close to the hottom raises dirt in enormous clouds, which take hours to settle again If one has to work here, it is advisable to wear heavily-weighted diving boots and quietly stand on a suspended diving platform or an iron parallel resting on the sea bed.

Fortunately, Sweden has a brighter side to offer the underwater cameraman —the beautiful stretch of water sparkling along her West Coast. Here bluish-green water licks up around rugged granite islands marked with perfect bays and inlets, and fish abound in great variety. The main snag in the Skagerak is the heavy swell which often sweeps in from the North Sea, bringing with it large concentrations of plankton.

British coastal waters. with their long sandbanks, muddy shores, and unreliable weather and sea conditions, are not particularly suited to underwater photography. Therefore, British producers wishing to make underwater movies invariably choose the Mediterranean—usually around Malta—to stage and photograph their underwater sequences. Here may be found reasonable water temperatures, good underwater visibility, fairly reliable weather, and excellent facilities, and—if the Royal Navy is co operating on the production—one of the finest Fleet Clearance Diving Teams in Europe from whicb to select a cast of underwater actors.

Last year the most enterprising underwater feature ever to come from a British company was filmed in this region under the bays of George Cross Island. The film, "The Silent Enemy," a Remus production, tells the story of the wartime exploits of the famous Commander Crabbe, R.N. The camera and equipment which I used in photographing the underwater sequences for this picture will be described in ensuing paragraphs.

Full Admiralty cooperation was extended our company on this productionof and most of the work was carried out in the Blue Lagoon off Communo island. Here there is a particularly suitable stretch of white sand at five fathoms—ideal for reflecting sunlight under the hulls of ships, where so much of the picture's actions takes place, and at all times giving balanced lighting and good meter readings. Exposures on a calm sunny day, near the ocean floor, were around f/11, using Plus XB negative and a Wratten G/15 filter on the lens.

When photographing an exciting fight sequence inside the sunken wreck of an aircraft, where Italian and British frogmen clash as they search for a briefcase containing important blueprints, daylight was the only source of light used. Before the enormous four-engined Neptune plane was lowered into 4½ fathoms of water, gashes were cut in the top of the fuselage, giving the interior an airy and contrasting lighting effect

Taking part in the underwater action were ten Naval divers led by two diving officers. I was both cameraman and operator and working close by was a still cameraman On the surface were the operational headquarters staffed by the director, continuity girl, and two camera assistants

Location shooting here was completed in eight weeks in spite of some bad weather encountered at the beginning. To shoot some 200 set-ups required 58 hours of diving or underwater work. From this it will be realized how valuable is actual diving time Most of the straight time is spent waiting for the right weather and sea conditions, in pre

(Continued On Page 580)



CAMERAMAN WOXHOLT with the Arrimarine-35 camera inside is converted Model II Arriflex, also batteries to power it and air-supply for aiding bouyancy



WITH THE Arrimarine-35 in perfect hydrostatic trim, insert shots, such as the one being filmed here by Woxholt, are easy to make At all times, the operator sees what he shoots through the camera's taking lens



THE CAMERA ROLLS on a scene for American Medical Association's public relations film, "The Medicine Man." Director of photography Walter Strenge ASC, center, watches proceedings while author-director Wilbur T Blume (seated below camera) directs the scene Others in picture are camera operator William Norton, and assistant Bill Anzer (standing)

MEN WHO KNOW QUALITY LIKE HOLLYWOOD PRODUCTION BEST

Professional cinemotography, mojor studio focilities, key foctors in decision to produce A.M.A. public relotions film in Hollywood.

By WILBUR T. BLUME

FOR MANY YEARS, The American Medical Association bas used films for public relations and educational purposes, hut until this year they had never made one in Hollywood. Wanting the full production range that is availahle here, the AMA Director of Public Relations, Leo Brown, contracted with Monopegic Productions of Hollywood for a half-hour dramatic television subject. The topic was quackery in food supplements and lecture hall food faddists, and was appropriately called, "The Medicine Man."

The script called for a wide variety of sets, from a primitive witch doctor's hut to a hotel lecture room. Some twelve sets in all were built at Keywest Studios for the cast of eleven principals and thirty extras. This is not too unusual by Hollywood standards but it indicates the direction of thinking of many of the nation's top public relations experts. They are coming to recognize that Hollywood know-how saves time and makes more effective films. "The Medicine Man" was filmed in two shooting days.

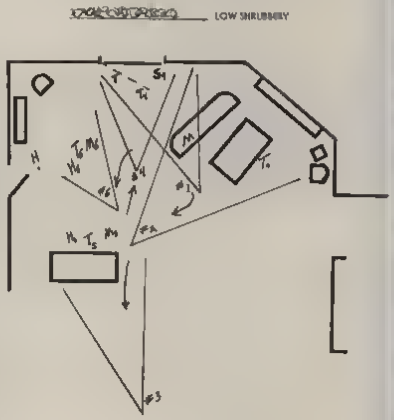
The technical crew was headed by veteran cinematographer Walter Strenge, President of the American Society of Cinematographers He employed many moving camera shots, which added not only to the speed of the production but also to its production value.

An example where this kind of planning paid off is the final scene of the picture In it the camera picks up the lead, Ted, and his wife, Mary, in a medium shot She is sitting on the sofa and he is in the background looking out the window As they talk, the camera pulls back slightly to allow him to pace in agitation, panning right to follow him. He then moves deep into the foreground (as the camera pulls hack further) and sits at a writing table. His wife comes out of the background and joins him as the camera pans left. At the right moment, their daughter comes through a door in the left background and overhears their conversation She runs up to them and the camera holds them all in a three shot in the foreground (See diagram below)

The doorbell rings and Ted goes to the door in the background, as the camera trucks with him The fraudulent peddler at the door makes a brief pitch before he is thrown out by Ted Their conversation is held in a two shot When the door is closed, Ted returns to his laughing happy family, as the camera pulls back and pans left for a three shot. This entire action ran two minutes without a cut.

A large part of the credit for such

(Continued On Page 582)



AUTHOR'S DIAGRAM shows camera movements and setups planned and utilized in photographing final scene for "The Medicine Man." Camera positions are indicated by numbers, positions of various players by letters H, T, M, and S.

AROUND THE WORLD WITH MAGNASYNC





taiwan (Formosa)

Shortly after leaving this Chinese Republican stronghold, the adventurous yacht Thespian sailed into a treacherous Pacific typhoon and floundered off the coast of Korea. Skipper-Actor John Calvert reports that his complete Magnaphonic installation-recorder, dubber and mixer—has weathered the storm and is storing up quality sound for his adventure picture series

Shown with the Type 15 recorder and Mr Calvert are (left to right) actresses Jean Stewart, Elaine Block, Toni Barrymore and Beverly Slater

The crew of the Thespian needed dependable equipment for their fast-moving activities on the deck of their ship and ashore (where Skipper John plans to make a picture raking foray onto the Red Chinese coast) This suggested the popular X400 Type 15—a single case unit planned for an "on-the-go" producer.



The Chinese Republican Government, on the other hand, selected the famous Mark IX—a system they knew they could depend upon to perform without fail under the most adverse conditions



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EXPOSURE EVALUATION

The factors that influence light measurement with photoelectric exposure meters.

BY DON NORWOOD

President, Halio Tech, Inc., Pasadena, Calif.

IN CINEMATOGRAPHY, as in still photography, the measurement of light to determine correct exposure is an essential step. Despite the general use of exposure meters, there is still some misunderstanding if not disagreement as to the relative merits of the "reflected light" and "incident light" method of determining exposure.

Essential to any clarification of these terms is a fundamental explanation of each. *Reflected light*, as the term is used in photographic light evaluation, means the light reflected from the scene or subject toward the camera. *Incident light* means the light falling on the scene or subject.

To measure the volume or intensity of reflected light, a reflected light meter is pointed (usually from camera position) at the scene or subject. The light reflected toward the meter from the various components within the scene acts on the meter's photocell to actuate the scale pointer that indicates the brightness of the scene or subject in candles per square foot or foot lamberts, or in f/-stops direct.

Incident light is measured by meters designed especially for the purpose, such as the Norwood-Director shown in Fig. 2. With this meter the useful photographic light is measured by holding the meter close to the subject, with the meter's light collecting 3-D heliosphere facing the camera lens, as shown in Fig. 1. Thus the light falling on the subject is correctly measured without undue influence being brought to bear by such dubious factors as bright sky areas, sand, snow, etc., or excessive dark areas such as trees, shrubbery, etc.

Reflected light meters are influenced by the background in a scene because there is generally so much of it. Where the background is predominantly dark, a reflected light meter held upon the scene may give a reading that will result in some over-exposure on foreground subjects. Conversely, where the background consists of predominantly light areas—such as bright sky, water, etc.—the same meter will give a reading that may result in underexposure of foreground subjects. I have advisedly stated "may" because many experienced photographers, taking readings such as described above, will compensate for over- or under-exposure by making allowances in the lens setting—something they have learned to do by trial and error. How much simpler it is, of course, to have your meter give the correct evaluation of the light, leaving nothing to calculation or chance.

A typical example of the situation described above is found in many amateur movie films, where the subject—posed perhaps, on top of a fence or gate—has bright sky for a backdrop. The



FIG. 1—The incident light meter, which measures the amount of light falling upon the subject, is normally used at the location of the subject, as shown here, with the meter's 3-D hellesphere pointed toward the camera lens.



FIG. 2—The meter shown in use in photo at left—the Norwood Super-Director—which automatically and with a single reading gives the correct exposure to use for exteriors and interiors, with the same accuracy for both.

reflected light reading is unduly influenced by the predominance of bright sky, with the result that the main subject is under-exposed.

The effect of bright areas in a scene on a reflected light meter can be demonstrated by holding the meter on an average scene, then have a girl in a light dress walk into the scene—or have a person enter the scene holding a large white card. Note how the indicator needle of the meter will climb to register the increased amount of reflected light suddenly brought into the scene. In either case the light on the person's face remains the same. Yet, a reflected light meter reading taken from camera position, and not properly compensated, would result in some under-exposure in the person's face.

On the Hollywood sound stages, directors of photography aim for the norm in exposure on the faces of the principal players, who are usually in the foreground in a scene Even more important is the fact players' faces must be consistent in density from scene to scene The relative density of the rest of the scene is controlled in the lighting and a check of ratios made by meter readings.

Since the advent of the incident light meter. I have received countless letters from photographers, both professional and amateur, posing questions on the subject of photographic light evaluation. Some of the questions, together with the answers, are reproduced below·

What effect does back-light have on an exposure meter?

There is some back light in nearly every scene Outdoors, back-light may come from the sun, where the subject or scene photographed is facing away from the sun Or a very bright sky may provide a measure of back-light. On the sound stage, of course, back-light from set lamps is invariably used in most scenes for separation Where a reflected light meter is used to determine exposure in such instances, difficulties can be encountered because the back-light source strikes the meter-cell directly, over-riding the weaker illumination reflected from foreground subjects.

Now, where an incident light meter is used to determine exposure in such scenes, the meter is held close to the subject, with the 3-D heliosphere correctly aimed to read the light falling on the camera-side of the subject—including the backlight The 3-D heliosphere in effect represents the camera-side of the three-dimensional photographic subject The reading thus obtained is dependable because the 3-D hehosphere of the meter is sensitive to all light falling on the side of the subject which is observable from the camera position. The meter integrates all of the illumination which, from the camera's point of view, is effective on the subject. Obviously, a motion picture in which incident light measurement is used for every exposure, should show consistency in exposure and flesh tones scene after scene.



FIG 3—The incident light meter may also be used at the camera location in the case of certain fairly common light conditions.

When there are variations in the relative size of light and dark areas in a scene, what effect does this have on exposure meter readings?

This is partially explained above in the paragraph describing the effect of the sudden intrusion of a bright object in a scene In another example, take a scene in which two girls in light dresses appear standing in front of a dark hedge One of the girls exits the scene There will likely be one full stop difference in a reflected light meter reading following exit of the girl, because her exit reduces the bright area in the scene to a measurable degree Factually, the same f/stop should apply, regardless whether one or both girls are in the

(Continued On Page 578)

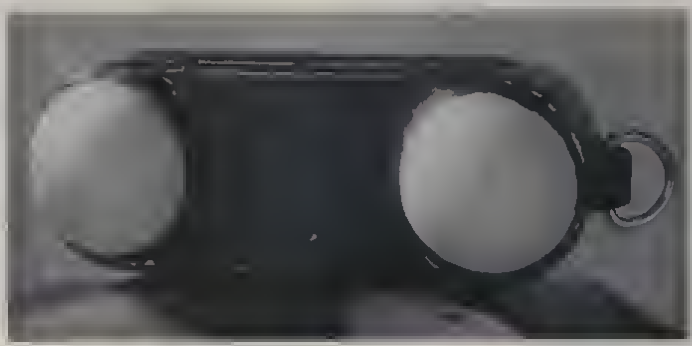


FIG. 4—The first 3-D incident light meter developed by the author in 1933 from which the present Norwood Super-Director incident light meter evolved



FIG 1—Demonstrating the Sampson-Hall underwater motion picture camera housing in a swimming pool. Simplicity of operation enables any skindiver to use it.

A CAMERA HOUSING FOR UNDERWATER PHOTOGRAPHY

By JOSEPH V MASCELLI

WHEN A CAMERAMAN goes under water to shoot movies, he wants a camera unit that's light in weight, properly balanced, and simple to operate. Designed to meet these requirements is the Sampson-Hall underwater motion picture camera housing designed especially for use with Bell & Howell Eyemo and Filmo cameras by Sampson-Hall Co., Costa Mesa, Calif.

Herb Sampson, for eighteen years a designer of professional underwater equipment, developed the original model for 100-ft. Filmo and Eyemo cameras. A new model, that takes the Eyemo with a 400-ft. magazine is the result of collaboration with Jon Hall, noted motion picture actor and expert skindiver photographer.

Among the notable features of this underwater housing are its neutral buoyancy and large front and rear ports. The cameraman becomes virtually an extension of the camera by placing his face mask flat against the rear port, enabling him to keep the camera on target with greater ease and at the same time simplifying the viewing problem.

A brilliant optical viewfinder is mounted inside the housing in a position that is close to the lens when the camera is mounted within it. Thus, when the cameraman places his face mask against the rear port, his left eye is in position to view the scene through the optical finder. There is also a wire-frame sportsfinder mounted externally on top of the housing.

Focusing the lens and setting the diaphragm stops is accomplished through external controls. Two moulded pistol-grip handles insure a steady hold on the camera. The handle for winding the camera motor spring is on the right. The f/-stop control is on the left and is



FIG 2—Rear view of Sampson-Hall underwater camera housing showing lens scales scribed on gloss of rear port, also the indicator of the built-in exposure meter (1).



FIG 3—Front view of housing showing photocell of meter mounted at (2). Housing was designed specifically for Bell & Howell Eyemo and Filmo cameras.

operated by the left thumb The camera starting button is operated by the index finger of the right hand As may be seen in Fig 2, f/-stop and focusing scales are engraved on the rear port glass, and when adjustments in either or both lens controls are made pointers moving back of the scales accurately indicate the lens settings The combination finger tip focusing control and visual scale thus enable the operator to change focus or f/-stop or both during a take

Another feature—probably exclusive with the Sampson Hall unit—is built-in exposure metering which eliminates for the cameraman the need to carry a meter in a separate water-proof case The photocell and indicator units of a late model General Electric exposure meter have been divided and mounted inside the housing—the photocell just back of the glass in the front port (as shown in Fig 3) and the indicator in the rear port in easy view of the operator (Fig 2). This enables the operator to keep an eye on exposure values and to correct for any light changes while shooting by changing the lens aperture through the external control at his finger tips Wiring between the two units is automatically disconnected or reconnected whenever the camera housing is opened or closed, by means of standard electrical connectors

While the 100 ft and 400 ft housings accommodate either the 16mm Filmo or 35mm Eyemo the 100-ft model affords only spring motor camera operation, while the 400-ft model provides for cameras that are to be operated by a Bell & Howell 12-volt motor Power for the motor is supplied by a compact Yardney Silvercel alkaline battery mounted within the housing (Fig 4)

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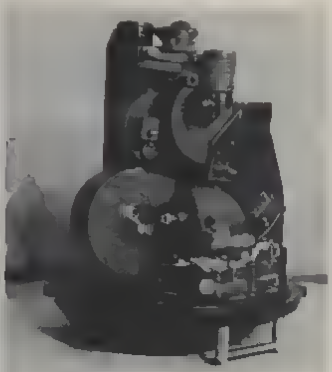


FIG 4—Motor equipped Eyemo camera upended on rear plate of the Sampson-Hall underwater housing Yardney battery is shown at (3)

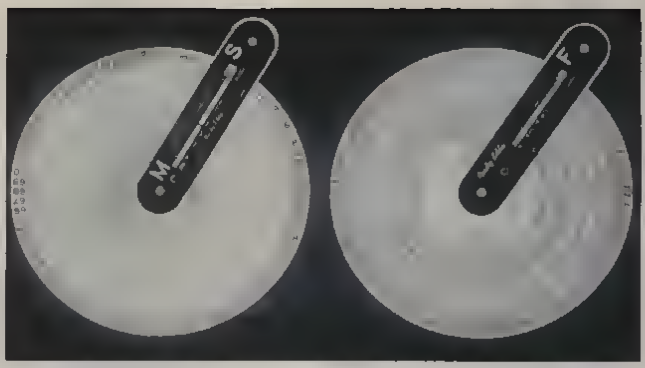


FIG 1—READY-EDDY 8/16, companion to the original Ready-Eddy calculator for 16mm and 35mm films, is a durable plastic disk with valuable data on both sides A rotatable indicator gives information on footage with relation to screen time on one side, and the frames or footage for a given period of minutes or seconds on the reverse side

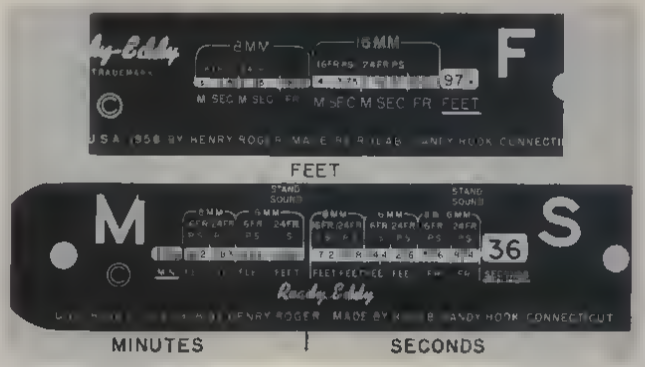


FIG 2—CLOSEUP detail of both sides of rotatable indicator F scale gives data where footage is known, the M and S scales where the minutes or seconds of screening time is known

New Film Computer

THERE'S NOTHING LIKE a slide rule or calculator to give a ready answer to a mathematical problem, and this is especially true where the problem concerns the editing or screening of motion picture film where cuts must sometimes be calculated in terms of running time, number of frames, or both

Recognizing the film worker's problems Henry Roger of Sandy Hook, Conn in 1951 designed and put on the market a novel calculator which he trade-named Ready-Eddy It consisted of a durable 5-inch plastic disk having rows of figures on both sides, and an indicator-computer anchored at the center which revolved around the surface of the disk to give ready answers to a wide range of problems encountered in the production, editing and screening of 16mm and 35mm motion picture films

This month Roger introduces a companion to his original computer—the Ready-Eddy 8/16—designed especially for those working with 8mm and/or 16mm films, amateur or professional According to Roger, present users of the original Ready-Eddy will find the new 8/16 model of benefit because of its extended scale in the 16mm data section At a glance, the Ready-Eddy 8/16 gives the answers to such questions as: "What is the screening time for a given footage at sound speed? At silent speed?" "How long, in feet or

(Continued On Page 578)

Cannes Festival—Incentive For Amateur Movie Makers

World's most important amoteur film competition sporks trend toword more production by omoteurs of serious 8mm ond 16mm matian pictures.

By EARLE MEMORY



JUDGING THE 1957 entries in the Cannes festival for amateur films. The jury consisted of representatives from Czechoslovakia, Denmark, France, Switzerland and the United States. The author—5th in the front row—represented the U.S. Some 80 films were screened and evaluated.

THE AMATEUR CINEMATOGRAPHER in Europe takes his hobby more seriously than does his counterpart in the United States. This is remarkable when we consider that he has much less leisure time and that his film costs are considerably higher, both actually and comparably. There may be several reasons for this. Possibly a major one is the part that his various cine clubs play in maintaining his enthusiasm and stimulating his ingenuity. Another could be that he is much more competition-minded and has many more opportunities of exhibiting his films and earning recognition.

His local cine club is affiliated with the national club which, in turn, belongs to an international organization called UNICA. The latter holds a competition, or festival, annually in which are entered films submitted by the various national clubs. This competition is well publicized internationally and is held in a different country each year. Let us consider for a moment the local amateur club of Geneva, a city of only 150,000 population. With about 200 members, this club has an average attendance at its weekly meeting of over 50 members. Certain meetings are devoted to viewing, criticizing and grading (according to a uniform system) members' films of specified categories. Those films receiving a certain number of points are sent to the national club in Zurich to compete with films entered by other local clubs. The national club then enters its top films in UNICA in competition with those similarly selected by other countries of Europe. Much fame and honor is accorded the winners.

Possibly even more importantly, there are many well-publicized and well-at-

(Continued On Page 570)



FESTIVAL WINNERS and judges mingle at banquet given in their honor at conclusion of festival, at which time the awards—37 in all—were presented. Festival is open to amateur film makers in any country.

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CANNES FESTIVAL

(Continued From Page 568)

tended amateur film festivals each year in Europe which are open to all bona-fide amateurs of all countries of the world. Entries in these competitions are by individuals or amateur groups and have no relationship to the various clubs. Considered to be the most important of these amateur film festivals (and probably tops, prestige wise; but there is fierce competition between the competitions) is the one held in September of each year at Cannes, France, the "Festival International du Film Amateur," now in its eleventh year. As the author had the honor of representing the United States on the jury at Cannes last September, this article is concerned principally with that particular festival, although it may be considered more or less typical of all similar competitions in Europe.

Last year the permanent festival committee at Cannes received as entries more than 400 amateur films. These were color or black-and-white 8mm, 9.5mm or 16mm, and photographed at 16, 18 or 24 frames per-second. Sound could be optical or magnetic on the film or synchronized tape or discs. Each entry that did not have sound on film had to be accompanied by a recorded sound background and a fully detailed cue sheet of the sound process. If unrecorded narration was necessary or desired, a written commentary to be read during projection had to be submitted. The permanent committee previewed the entries before the opening of the festival and eliminated all but 80. Showing these 80 films to the jury and the public comprised the formal portion of the festival activities.

Last September the 80 surviving films came from the following countries: Belgium 4, Brazil 2, Czechoslovakia 2, Denmark 2, Finland 1, France 31, Germany 3, Great Britain 2, Italy 15, Madagascar 1, Monaco 1, Norway 1, Spain 6, Switzerland 3, United States 3, and Yugoslavia 3. Their length varied from 2 to 40 minutes. Twenty-two were in black-and-white, 11 were 8mm, 4 were 9.5mm and the remainder were 16mm color, mostly Kodachrome. The sound systems were of all types. Many advanced amateurs in Europe are now using 16mm projectors that reproduce sound on 1/4-inch tape in sync with the picture.

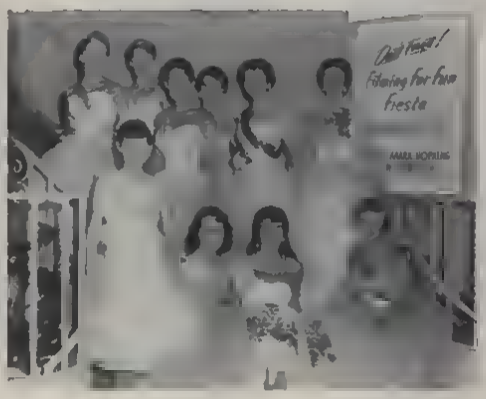
The Cannes festival encompasses eleven days, including the gala opening and closing banquets. Eight evenings and one afternoon are devoted to screening the 80 films, and one evening is devoted to showing prize-winning films from the previous year. As this is a municipal enterprise, entirely financed by the city of Cannes, the showings are held in the modern, beautiful 1600-seat theater, Palais des Festivals, located on the water-front in the midst of Cannes' world-famous luxury hotels. Nice, Menton, Monte Carlo and other cities of the French Riviera cooperate to entertain during the daytime hours the many visitors that come from many countries to participate in all or part of this festival. A large number of followers come each year for their vacations. Regardless of whether they have entered films, Festival participants are extended substantial rate reductions by hotels and restaurants—including the best. All film showings at the Festival theater are open to the public at a nominal charge; all proceeds go to charity, and the theater is well-filled each night. The local newspapers give the daily events excellent coverage.

The projection equipment in this theater is superb, enabling them to project 8mm, 9.5mm and 16mm films 130 feet onto a screen 25 feet wide with remarkable brilliance. In the case of 8mm, the magnification ratio is over 2½ million-to-one! This theater is also used for Cannes' annual professional (35mm) and medical (16mm) festivals.

The jury last year consisted of representatives from Czechoslovakia, Denmark, France, Switzerland and the United States. Judges cannot serve more than once in ten years. Judging was based upon a system of 100 points, allocated as follows: overall impression 20:

(Continued On Page 572)

FILMING FOR FUN FIESTA BECKONS AMATEURS



ONE OF THESE BEAUTIES was chosen Miss Movie Fiesta for 1958 by members of the Northern California Council of Movie Clubs—but you'll have to attend the Council's 2nd Annual Filming for Fun Fiesta in San Francisco, November 1-2, to find out who is the lucky girl.

IF YOU HAVE read Earl Memory's account above on the activities of the European amateur movie maker and of the annual amateur film festival at Cannes, you'll be interested to know there is at least one very active group of amateur movie makers in the United States which not only represents good amateur film making but takes pride in showing the skill and artistry of ciné amateurs in an annual event they call Filming For Fun Fiesta. This is the Northern California Council of Movie Clubs.

On November 1st and 2nd, at the Mark Hopkins Hotel in San Francisco, the Council will hold its 2nd Annual Fiesta which, based on the success of last year's event, will attract most of the important amateur cinematographers on the West Coast.

Movie makers in the eleven western states and in Hawaii, Alaska and Western Canada are invited to enter their best films in the 1958 Ten Best of The West contest, which concludes October 15th. The winning films will then be shown at the Fiesta in November. Entry blanks for those who wish to enter films in the contest may be obtained from the contest Chairman, Gordon Robertson, 1278 Excelsior, Oakland, Calif.

Besides screenings of top amateur-made films, the Fiesta program will include talks by Tullio Pellegrini on "Pictorial Continuity", George Cushman on "Creative Editing" and "Application of Sound to Home Movies"; Sal and Nadine Pizzo on "Indoor Movie Script Shooting", and Glen Turner on "The Creative Camera."

More information and a registration blank may be had by writing to Fiesta Chairman Ed Kentera, 4121 Campana Dr., Palo Alto, Calif.

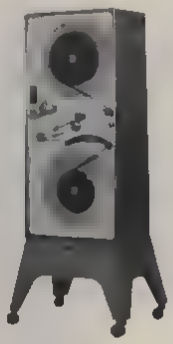
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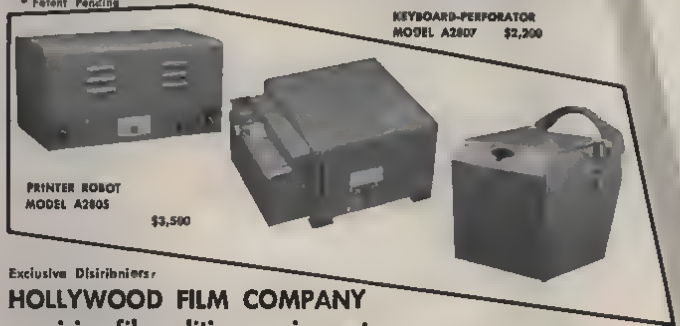
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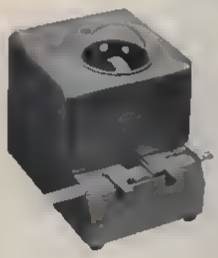
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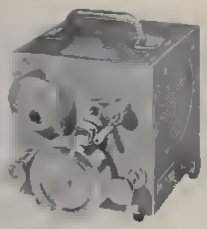
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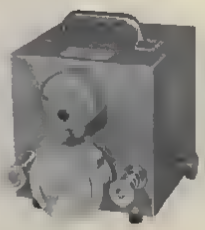
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CANNES FESTIVAL

(Continued From Page 570)

intellectual value 20, artistic value 20; technical value 30; and exceptional qualities 10 There were 37 prizes awarded (consisting of cups and plaques) at the closing banquet Their monetary value was nominal, but they represented recognition in an outstanding competition. They are much sought after and long cherished.

Although the author has been an active 16mm amateur since 1930, he was amazed to see what amateurs are doing today in other parts of the world—and the thought time, ingenuity and imagination evident in the films seen in this festival. The amateur in Europe makes his films to be shown. If he can't afford color, he gets along without it. and consequently usually makes a better film There were quite a few animated films and cartoons submitted, also a surprising number of abstractions in the form of changing colors and patterns to drum or piano music. There were only two travel films, one of them from behind the iron curtain. The most unique film was one that had never seen a camera . . . the picture and the optical sound track were drawn by hand! The other films were of the scenario type, used some sort of story to tie the film together, or were documentaries The impression was that practically all of these films were painstakingly made . . . they didn't just happen. Some one, or group, had an idea and transferred it to film.

Many European amateurs use 8mm black-and-white for their family films and reserve their 16mm camera and film budget for serious filming, usually for competitions Much good 8mm equipment is available in Europe and f/0.9 lenses are popular. Many films are produced by amateur groups, not necessarily clubs. Here the pooling of effort and talent is stimulating and sustains interest in this most fascinating hobby. The results are worthwhile and the consequent recognition most rewarding.

We in the United States undoubtedly expose more amateur film than the rest of the world combined, but do we carry much of this stupendous outlay of money, time, talent and energy to any logical conclusions? We don't exhibit our films to any appreciable extent nor do we participate to any marked degree in foreign competitions. Neither do we have sufficient and well-publicized competitions of our own. Why is this? Do we just lose interest after we have mastered the first principles of making our own movies? Probably 99% of our cameras come off the closet shelf only when the baby (or grandchild) has a birthday or

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when we take a vacation trip. We are not receiving enough dividends from our investment. Is it because there aren't enough outlets for showing our films and not enough opportunities for recognition?

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It would be then that the amateur in America would come into his own. He would compete strongly in international competitions in other countries, he would then hold national and international competitions of his own and would then receive the artistic, intellectual and technical recognition to which he is entitled. ■

CAMERA HOUSING

(Continued From Page 567)

Use of the Yardney battery obviates the danger of gas-generated explosions that are possible where lead-acid batteries are used in air-tight enclosures.

The compact smoothly contoured housing is made in two sections of die-cast aluminum alloy, heat-treated to withstand high external pressures and given an anodized finish that makes it impervious to hard knocks or the corrosive effects of salt water.

A salient objective in the designing of this unit was to achieve full neutral buoyancy through pressure-equalization. It is possible, therefore, to use the housing at depths to 150 feet without additional pressurization. At greater depths, the cameraman can set the pressure for negative or positive buoyancy or otherwise as the situation demands by means of a small valve. The housing can also be neutralized for any depth so it will stand virtually motionless in static water, or be easily moved or tilted at the touch of a finger.

The Sampson-Hall underwater housing was designed especially for Filmo and Eyemo cameras for two reasons: both are plentiful and widely used, and their small size made it possible to make the housing small in keeping with the preferences of most underwater cameramen. No modification or alteration of either camera is required where it is to be used with the housing, except that certain fittings must be provided for the lens to afford external control of diaphragm and focus, as mentioned earlier. This service can be provided at time of purchase where the purchaser's camera is made available. In any case, the user's camera may be readily detached from the underwater housing for conventional use above water. The housing is opened by removing six lug nuts so that reloading of camera with film can be accomplished in something less than five minutes.

Gordon Enterprises, North Hollywood, Calif., who are presently marketing the Sampson-Hall underwater housing, also

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are making it available completely equipped with either a 16mm Filmo or 35mm Eyemo camera. The Filmos are mounted with 12mm f/1.2 Elgeet Golden Navitar lenses, and the Eyemos with 18 5mm Angenieuxs. These wide-angle lenses not only simplify focusing but they overcome much of the water refraction problem which tends to increase lens focal length slightly by narrowing the angular field.

There is little or no need to use long focal length lenses with the equipment, according to Jon Hall, who pointed out that because the camera housing is so light and easy to maneuver it is a simple matter for the cameraman to swim up to the subject for close shots. Also, he points out, water clarity being a major problem in underwater photography, except for a very few normally clear water areas, such as the Bahamas or the coral shelf of the South Sea Islands, it is not possible to obtain the most satisfactory picture results with long focal length lenses except in rare instances. The use of extreme wide-angle lenses, therefore, solves the problems of focus, lens angle and water clarity at one and the same time.

Hall has been testing the 400-ft. housing during the past three years, employing it to film underwater scenes for his forthcoming TV film series, "Malolo of the Seven Seas." He also filmed the underwater scenes for "Anacapa" off the island of Maui, in the Hawaiian Islands

Another user of the Sampson-Hall camera housing is Col John D Craig, producer of the TV film series "Danger Is My Business." The U S. Navy, U S Coast & Geodetic Survey, Scripps Institute of Oceanography, and the Fish & Game Commission of the U S Dept. of Interior have used or are using the equipment. Alan Gordon, president of Gordon Enterprises, whose company supplies much cinematographic equipment for Governmental, scientific and specialized research undertakings, stated that ". . . the Sampson-Hall underwater camera housing has ended a two-year search by our company for a simple, rugged and moderately-priced watertight blimp for underwater cinematography."

Having taken care of the professional field with the two housings designed for the Filmo and Eyemo cameras, Sampson-Hall is now turning its attention to designing a housing for the amateur movie maker—a model specifically for 8mm cameras that will sell for around $75 00. "There's lots of fun to be had just shooting underwater movies in the family swimming pool," Hall said. ■

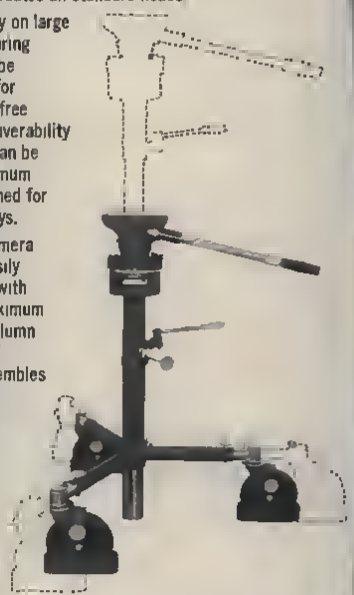
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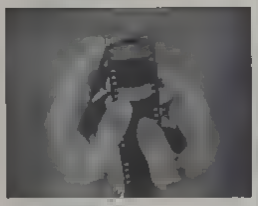
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RURAL ROUTE FOR REALISM

(Continued From Page 553)

It's a normal thing to ask a cameraman returning from a location what major problems he encountered. Guffey reiterated that the company's main problem was bad weather and the attendant poor quality of light.

"When I saw what the weather was like and that it might continue for some time, I asked the producer, William Goetz, if we should start shooting or wait for the weather to clear. He decided to shoot and make do with whatever light conditions we should encounter.

"On the whole, it worked out very well, because with booster lights we could easily simulate sunlight except in extreme long shots which, of course, we avoided when very bad light prevailed. But even in such cases there are tricks that can be employed with filters, film and some lights to get the shot you need.

"For moving camera shots, we used the same French dolly and tracks that Joe Ruttenberg used earlier in shooting 'Gigi' in Paris. (See July, 1958, issue *American Cinematographer*.—ED.). Because of the uneven terrain encountered everywhere, this equipment proved much easier to use, and faster to set up, than the crab dolly and tracks which we had brought along with us. We used the French dolly 90 per cent of the time—employing the crab dolly only on a few interiors—and carried the French equipment with us all the way to the Spanish border."

While most of the interiors for the picture were shot at the studio, following the company's return to Hollywood, some interiors were filmed in France, Guffey explained. "There were one or two castle interiors that we didn't think could be duplicated realistically nor economically in Hollywood," said Guffey, "so we shot in the actual castle locales in France. This presented no big lighting problem, in view of the wealth of equipment and generators at our disposal—but there were problems in finding ways to light the sets without benefit of parallels and scaffolds. Working within the confines of four fixed walls sometimes restricted us also."

"We had a night rain sequence to shoot in France," Guffey continued, "which at first looked like it might prove problematic. The shot called for rain to fall over a very extensive area in front of a castle, with flashes of lightning occurring at intervals. The French do not have the equipment we do in Hollywood for producing these effects—they simply use fire hoses to produce the effect of rain. For our sequence of scenes, a half dozen men with fire hoses were employed to send sprays of water into the air so it would fall upon the set in an imitation of rain. Here, extra special care had to be given to the lighting to enhance the realism of the shower."

The problems of weather, sound recording and various other unlooked-for contingencies made it impractical for the company to finish out some sequences of action with closeups, and the producer elected to do these later at the studio. "As an example," Guffey explained, "there was one sequence where the Colonel and his lady friend, exhausted after a hard day's travel, stop to rest under an archway in a small French village. We start out by showing the refugee-choked village in longshot; then we made a long dolly shot through the congestion of refugees to show, in medium and closeup views, the faces of the frightened, hungry, exhausted people. The camera then comes to a stop on the Colonel and his lady friend, and here the script called for four or five pages of dialogue between them.

This closeup action was deferred until we arrived in Hollywood. We completed all shots involving extras, then dismissed them. To have made the closeups on location would have meant that hundreds of paid extras would have had to stand around idle in the meantime, then return the next day. So we made background plates and these were used later at the studio to backdrop the two players in dialog scenes shot on the process stage."

"Did you have to think in terms of what you could do in lighting the matchup shots back at the studio, when shooting the process plates?" I asked.

"Yes, we did."

"What consideration did you also have to give the camera angle and the time of day in which the process plates were shot?"

PRODUCTION DATA

"ME AND THE COLONEL"

Produced by William Goetz
for Columbia Pictures Corp.

Directed by Peter Glenville

Director of Photography: Burnett Guffey, A.S.C.
Operator: Andy McIntyre
Assistant: James Soper

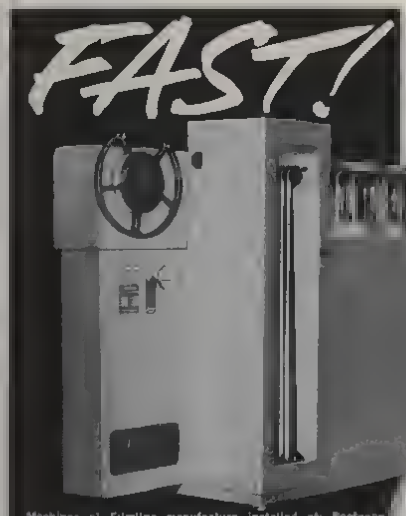
CAST: Danny Kaye, Curt Jurgens, Nicole Maurey, Francoise Rosay, Akim Tamiroff

Screen Play by: S. N. Behrman, George Froeschel

Art Directors: Georges Wakevich, Walter Holscher

Film Editor: William A. Lyon

Photographed on Plus-X with night scenes on Tri-X, in 1.85-to-1 wide-screen format with Mitchell cameras.



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"In a case like this," said Guffey, "you accept whatever angles are practical at the time, and also the lighting, then try and match them at the studio When trying to match up footage shot on location at the studio, we first screen the footage to study our camera angles and the lighting. Then on the set, we have a Moviola beside the camera for the purpose of quickly reviewing the film for reference as we light the set and position the camera."

Keeping tabs on his daily work while on location in France was a simple matter, according to Guffey. "All our negative was developed by a laboratory in Paris," he said "Dailies were shipped to us wherever we were. Then we'd take them to a local theatre and screen them. Obviously, we got all kinds of projection quality — good, bad, and otherwise Sometimes we weren't able to properly evaluate the photographic results, but we had our daily light tests to refer to as a final check The negative processing of the Paris lab, incidentally, was very good"

Pictorial authenticity, which was so important to this production, was thus achieved Despite the adverse weather encountered and the arduous 600-mile location route, the picture was completed six days ahead of its 44-day shooting schedule "Me And The Colonel" is now in general release throughtout the U.S. ■

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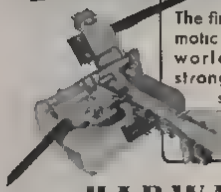


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NEW FILM COMPUTER

(Continued From Page 567)

frames, must a scene or cut be to screen for a given period of time?" "How many frames are required for a certain action or effect?" "What is the total footage of a given number of cuts, also the screen time?"

As with the original Ready-Eddy, the indicator of the new 8/16 model gives answers in *feet*, and in *seconds* and *minutes* of time. The footage scale is on one side of the disk and the data occupies the entire side. The seconds and minutes scales are on the opposite side. The seconds scale has a range from 1 to 90 seconds; the minutes scale from 1 to 45½ minutes, subdivided into halves. In addition to the standard SOF speed of 24 frames per second, a 16 frames per second column has been provided on the new 8/16 model. The subdivision of halves, mentioned above, is of particular importance to those who work with 8mm film dealing as they do with twice as many frames per foot of film as do those working with 16mm.

Professional film workers will appreciate the extended scope of the 16mm data section, which ranges from 1 to 100 feet in half-foot divisions.

For ready identification of the computer sides, one is boldly marked with F (for footage) and the other with M and S (for minutes and seconds). The upper scale in Fig. 2 shows the F side of the Ready-Eddy 8/16 rotatable indicator in closeup. There are three slits or "windows" through which the figures on the disk show as the indicator is rotated to the footage for which the minutes and seconds of screening time is the data desired. For illustration, the indicator is stopped at the 97½-ft. mark. Figures in the windows show the screen time equivalents, viz: 97½ feet of 8mm film, running at 16 fps will screen for 8 minutes, 7.50 seconds; at 24 fps, for 5 minutes and 25 seconds; the total number of frames—7800—is also shown in this window. The adjoining window gives comparable data for 16mm film; a screen time of 4 min. 3.75 sec. at 16 fps; and 2 min. 42 sec. at 24 fps. The total number of frames in 97½ feet of 16mm film is also shown.

On the M/S scale just below (Fig. 2) the screen time in minutes and seconds is shown for both 8mm and 16mm film, at 16 and 24 fps. Here the rotatable indicator is stopped on 36 seconds for a reading of footage and frames data. In this same position the indicator also shows the footage data for 43½ minutes of screen time for both 8mm and 16mm films projected at either 16 or 24 fps. The minutes and seconds data, in this case, have no relation to one another.

Where the user wishes information in *minutes* of screen time, the indicator is rotated until the footage figure on which the data is desired appears in the small window at far left in the M section of the indicator. Where the data desired relates to a given number of *seconds* of screen time, then the S-section of the indicator is used, as described above. Fig. 1 shows the relation of the rotatable indicator to the circular data disk. Slip-riveted at the center, it may be easily moved around the disk to produce at a glance the data desired without the need of further computation or side-line mathematical calculations.

The entire computer is made of sheet plastic which is first printed, then laminated in a hot press. This gives life-time protection to the printed data; it cannot be obliterated through long use, abrasions, etc.

If you work with either 8mm or 16mm films, amateur or professional, this new computer will prove a valuable tool in giving quick and dependable information on footage, frame count and screen time for script planning, photography, editing and projection. ■

EXPOSURE EVALUATION

(Continued From Page 565)

scene, because the general illumination does not change; flesh tones of the subjects are not altered, and in this case not even the background is changed. Here, again, an incident light reading would render the most dependable exposure of the scene.

What is chromatic error and how does it affect exposure meter readings?

Chromatic error is present when a reflected light meter is used to determine exposure because of the way various colors affect the meter's photocell. The

EDITOR'S NOTE: *The author Dan Norwood, is the inventor of the Norwood Director incident light meter, which was publicly introduced for the first time in a series of articles in American Cinematographer (November, 1939; and January, February and March, 1940). His present Norwood Super Director is an improvement over early models and features, besides the 3D heliosphere light collector, which virtually has become its trademark, a unique and exclusive Helicoid which makes obsolete the earlier system of a series of sirdes for altering light intensities reaching the meter's photo cell.*

Director of Photography Floyd Crosby, A.S.C., was the first Hollywood cameraman to purchase a Norwood meter, which Dan Norwood custom built for him in 1940. Today, the Norwood meter is used by photographers in every country on the globe.

light reflected from a scene may be strongly colored by the scene components themselves. For example, a scene with a red brick building comprising the background, or one consisting largely of green trees, shrubbery and grass will reflect light in their respective colors. An expanse of deep blue sky overhead and blue sea in the background will likewise affect the light reflected by the scene. The color sensitivity of the photoelectric cell, such as used in the average exposure meter, is quite different from the color sensitivity of either color or black-and-white films. And this difference allows major errors to occur when a reflected light meter is used for scenes where the reflected light is influenced by substantially colored areas or objects within the scene itself.

Where chromatic error is a problem in evaluating light for photography, veteran cameramen sometimes solve it through a series of readings and averaging the results, or by modifying the readings obtained on the basis of long experience in compensating for chromatic errors. Such procedure, however, is troublesome and time-consuming.

Chromatic error is not a problem where exposure is determined with an incident light meter. Because it measures the illumination from the source, which is preponderantly white, and not the light reflected by the scene or sub-

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EXPOSURE EVALUATION

(Continued From Page 579)

ject, the incident light meter is unaffected by the differing wave lengths of colored reflected light.

It seems unfortunate that the 3-dimensional nature of photographic subjects and photographic illumination in relation to exposure control, have not been more generally understood. Due to this lack of comprehension there have been numerous pseudo incident light meters offered on the market. These usually have flat, or nearly flat, light collectors and the results obtained with them have generally been quite mediocre. Most meters of this type are suitable for light intensity measurements only; but a measurement of light intensity alone is not enough for correct evaluation of incident light. It is only when the two factors of *light intensity* and the *geometry of illumination* are both taken into account that the very real benefits of incident light measurement are realized. The 3-D helosphere light collector has the unique property of doing both of these jobs simultaneously and automatically. And it has made incident light measurement for exposure control not only very practical but immensely useful.

UNDERWATER CINEMATOGRAPHY

(Continued From Page 561)

paring and servicing diving and camera equipment, planning and briefing the upcoming shots, or sitting out delays due to the dressing or re-arranging of underwater sets.

A good morning's run would go something like this: all divers will have had an early breakfast to allow ample digestion time to ensue before getting to the diving location. While assistants prepare the underwater camera, the actor-divers check their equipment and dressing. The first team of divers are below checking the sets, while the cameraman has a brief conference with the director and production manager—running through the morning's schedule. The cameraman then enters the water to study the general conditions of light and water and also to view the sets. When satisfied, he returns to the diving launch along with the first team of divers. A detailed discussion follows between the director, actor-divers, signal-diver and cameraman. Sketches are drawn on a blackboard, the actions studied and finalized, and cues and signals agreed.

A good team will remember the details of several set-ups from one briefing session and good progress can be made without too-frequent re-surfacing—and still carry out rehearsals below before each shot. Underwater telephones are not very practical for communication in this kind of work. Good, clear hand signals are still the best means of inter-communication below. For complicated messages at greater depths, writing notes on a sheet of aluminum with a soft lead pencil proved very useful.

Much of the activity taking place below in shallow water can be followed from the diving launch through water-viewers — something like the bucket-viewers used in California coastal waters by abalone divers. Whenever it is imperative for the divers to return to the diving launch, a detonator thrown over the side into the water will soon bring all hands to the surface. There should be at all times stand-by divers at the ready in the launch should extra help suddenly be required or for general emergencies.

When oxygen or re-circulating breathing apparatus is to be used, a location should be found where the sea bed is no deeper than five fathoms. This will prevent divers from going beyond their safety range by mistake, or becoming lost through the effects of oxygen poisoning.

More than two hours' time can be saved each day where the divers are given light snacks and refreshments at frequent intervals. Otherwise, a diver must have two hours' rest after every major meal before re-entering the water. Light meals taken during the day can easily be compensated for by a slap-up meal with lots of protein at night time, when the divers can get much more enjoyment out of their food.

Although the Mediterranean is supposed to be quite warm, nevertheless experienced divers who must work submerged as much as four hours a day prefer to dress in rubber suits. An added benefit is the fact the suits also give good protection against jelly fish, which can be quite troublesome during the months of July and August.

For an underwater location with a more exotic setting than the Mediterranean, there can be few places in the world to beat the Red Sea. From the treacherous Shadwan islands in the Straits of Gubal, with their multitude of oyster-covered shipwrecks of every age and origin, to the superb blue water around the corals of Shaab Anbar reef off Sudan, the sea is sizzling with tropical fish ranging from the tiniest angel

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fish to monstrous manta rays.

Here, in such waters, more than anywhere else, must the rule "always dive in pairs" apply. As the divers quietly glide into the crystal-clear water—their shark poles slung over their shoulders—the diving tenders and stand-by divers in the launch above zealously scan the ocean surface for any signs of irregularity below.

Divers can usually work undisturbed in "lagoons" within the coral reefs, providing they are careful not to touch the poisonous spines of the lion fish or step on a deadly stone fish. After a few dives here, the "men-fish" will also remember to keep clear of the fire-coral whose blistering effects sometimes take a long time to heal. In the Red Sea lagoons, one can find fascinating caves that lead in all directions—some back into the open sea—affording opportunity for some highly effective tracking shots with the camera. But a word of caution here: never let your hands touch or come to rest on the walls of these caves, for a voracious moray eel might fancy a bite at them with its sharp teeth.

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perhaps some exciting manta rays. Should you want some unusual shark action shots, just barpoon a fish and hold it some distance in front of the camera The sharks will be in camera range quicker than you can call an actor on the floor! You will see a fine display of "sharking" as the prey is being devoured — a sight which never fails to send a shiver down the back of the most hardened diver.

When filming action such as this, always work closely with your safety man, keep your back to the corals, and have your retreat figured out in case of emergency Take care you don't cut yourself on the sharp corals, for if your blood should start flowing, the savage sharks will most certainly go for you as dessert.

For underwater photography where sharks are involved, the use of a shark cage as protection for the cameraman is recommended, even though its use often becomes rather an involved operation

Now about the camera—the Arrimarine-35—which I used in shooting underwater scenes for "The Silent Enemy"; this was designed especially to my specifications and incorporates a number of interesting features. Basically it is an Arriflex Model II. The standard motor was removed from underneath to drive the camera from the right side through a special gearbox (similar to the one used for shooting in sync) This renders the unit more compact. The steel case, which is 14 inches in diameter, will easily accommodate the camera mounted with a 480-ft. magazine. All conventional controls are extended through the case. Position of the control knobs for aperture and focus enables the operator to adjust these during takes.

The convenience of the Arriflex's reflex finder system has been retained through an assembly of components brought out at the rear of the case This modification incorporates a brilliant component, which enables the camera operator, wearing his face mask, to work straight through the taking lens and insures spot-on composition and focus.

The lenses used on the Arrimarine-35 for this assignment were three Schneider-Krausnachs — 28mm, 35mm, and a 50mm—all f/2s Still another lens, which proved ideally-suited for underwater photography, was a French Angenieux Retrofocus 18.5mm f/1 8. Not only did this lens compensate handsomely for the 25% magnification that is created when shooting from air through perspects or glass into water, it also made it possible to work with the players closer to the camera thereby reducing the amount of water between lens and subjects and increasing definition Tbis lens also provides excellent depth of field. Mention should also be made of the three-inch filter holder that is mounted on a front bracket and serves all lenses.

To facilitate adjusting camera speed, there is a separate rheostat with an external control mounted close to the case. When the camera starting button is pressed with the right hand, the rheostat can be adjusted by the operator with the left hand while reading the tachometer that is visible through a port at the rear of the case. Illumination for reading is provided by a small lamp inside the case. Another lamp is positioned opposite the footage indicator on the magazine, which shows amount of unexposed film remaining in the supply magazine. There is, however, no danger of continued shooting after the camera has run out of film. As the footage indicator reaches the 15-foot mark, an electric circuit automatically closes and an energetic buzzer begins to function close to the ears of the operator. Also built into the case is an electric Klaxton horn having high penetration power under water. This is extremely useful for cueing actors, or for general communication purposes. All electric components are operated by a 16-volt bank of Varley alkaline accumulators that are mounted within the case.

The water-tight camera case consists of three sections: the front section or lid containing the main lens port; the middle section containing the camera, magazine, motor and controls; and the rear section in which are mounted the accumulators, pressure unit, and the finder eye-piece.

For CinemaScope photography, there is a fourth section that is inserted between the front and the middle sections to provide the additional space required for the anamorphic lens and its focus control.

The 10-gauge steel case was designed to withstand an external pressure of 3 atmospheres or a depth of nearly 70 feet, with a safety margin of 15%. However, for absolute safety—particularly in deeper descents — the case is provided with its own pressure unit. This gives it the same depth range as the Aqualung—approximately 250 feet. The pressure unit consists of an 11 cu. ft. air bottle, which supplies the case, via a standard Siebe-Gorman demand valve fitted externally, with air at a pressure slightly in excess of external pressure. When the camera is being returned to the surface and the pressure drops, surplus air is released from the case by way of a bleeder valve

Weight of the Arrimarine-35 fully rigged is 100 lbs. With the CinemaScope lens and focus control, added it scales 130 lbs In the water, however. this compact unit is entirely hydrostatic and perfectly trimmed, allowing fully-controlled handling by its free-diving operator with very little effort. The case has also a trim-bar for mounting small lead weights underneath to adjust for trim in waters having varied specific gravities A further refinement, added since the camera was used for filming "The Silent Enemy," is a buoyancy-bag or airlift, fitted to the top of the case Normally deflated, the bag is flooded with surplus air from the pressure unit when required to aid in floating the Arrimarine-35 to the surface. This permits the operator free hands to deal with any emergency or an easy lift back to the surface.

The accompanying photos readily indicate the freedom and ease with which this camera was used in filming the underwater sequences for "The Silent Enemy" ■

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MEN WHO KNOW QUALITY

(Continued From Page 562)

camera work should of course go to the operating cameraman, Bill Norton. He mastered complex moves in only three or four rehearsals

Another photographic problem was to match in live action a number of drawings displayed in one set. As the camera moved in on each picture, it effected a transition, in a special ten frame dissolve, to a matching scene. Here, registration of the two scene elements was accomplished by mounting a frame of the still drawing in the finder eyepiece of the Mitchell camera.

A unique problem the crew faced was lighting a rack of cages containing approximately 100 experimental rats. These rodent "actors" showed no stage fright but did squint a bit under the glare of the lights. The rats were borrowed from the University of Southern California for the scene

The family doctor in the film was played by an actual M D., Herb Lytton, who in real life is a retired physician. He was not cast for this reason. but rather for his "professional" manner The producers were unaware of his real-life occupation until after he had the part.

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ANIMATION TECHNIQUES

(Continued From Page 559)

into animation as soon as possible. These procedures have been handled as separate phases in this article for the purpose of clearer explanation, but actually they're all going on at the same time While the director is timing the picture, the layout man is busy developing the layouts, and the assistant director is organizing test reels and recording sound-effects. Then as soon as the story sketches have been translated into working set-ups, the director starts calling the animators in to pick up animation

The animation of a picture might start at any point in the story, depending upon the layouts that have been completed, the dialog that has been already recorded and upon the availability of the animators themselves

Animators are "cast" on pictures according to their individual aptitude for handling certain types of action or characters Some animators are best handling personality animation; others specialize in action stuff. The Disney studio has animators who specialize on certain characters—"Duck men," "Pluto men." and so forth. With stock characters like Mickey, Donald and Pluto, who are used over and over again, such specialization is very desirable. The animator, in picture to picture, can work towards the improvement of a character in drawing and in the development of its personality, and this specialization also eliminates the need for an animator to "warm up" on unfamiliar characters every time he starts on a new picture.

The animator is usually familiar with the story, having attended at least one of the story meetings, but sometimes, just to be safe, the director will out-

(Continued On Page 586)

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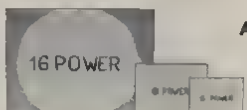


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ANIMATION TECHNIQUES

(Continued From Page 583)

line the complete continuity to him, and then concentrate on the sections that animator is to handle. This scene, or sequence of scenes, is explained in the minutest detail by the director who gives his conception and timing of the action. The animator will "play back" the action to the director, to insure that he has the intent and purpose of the scene firmly in mind, and also to suggest better timing and pantomime.

Between the two of them, they plot the exact course of the action on the layouts and time it out, accounting for every action down to the last frame of film. If there's dialog in the scene, a print of the dialog sound track is run on a Moviola, accompanied by pantomime.

The director must also have a streak of the actor in his jack-of-all-trades makeup. He must have a feeling for all the basic fundamentals of pantomime. During the course of explaining action to the animator, he will often go through all sorts of gymnastics. He may crawl on the floor, stand on his hands, bark like a dog, grimace like an ape or wriggle in the fashion of a snake. A spectacle reserved only for a chosen few is the sight of a director down on his hands and knees, tongue hanging out. "Like this, see? I want to get a funny little fanny wiggle on Pluto when he spots that bone and anticipates running for it, see?"

The director usually sets no absolute, ironclad rules for the performance of a character. He is fully cognizant of the animator's problems and knows that the final screen performance is decided down on the animator's drawing-board. Animators are highly creative craftsmen with definite ideas of their own about staging and pantomime. Working close to the scene as he does, a good animator usually will uncover new action and performance possibilities that could never be visualized by either the story man or the director.

So, in the interests of diplomacy and common-sense, the director allows plenty of leeway to the animator in the handling of the action in order to stimulate any creative impulse which might otherwise be held in check.

Any controversy between the animator and director at this point usually concerns the timing of action, and not about some phase of the story. Each has had his chance to get in his crack at the story development, for by the time the story reaches its last meeting prior to production, it's "Speak now, or forever hold your peace!" The next chance to change anything occurs when the first animation tests are looked at in the running reel.

Story revisions sometimes occur at this point, for the possibility of change and improvement is always present when working with a creative medium. But usually when the story is being handed out for animation, it is assumed that the continuity is set.

When the performance and staging of the action is agreed upon by the director and animator, they sit down and lay out the timing of the action on exposure sheets. These sheets are long pieces of paper ruled off horizontally to indicate frames of film and vertically into columns for action notes, "cel" levels, dialog, and camera instructions. These exposure sheets represent a complete chart of a scene's progress just as the director's bar-sheets keep tab on the overall picture, and serve to guide everyone concerned with the progressive technical steps of production; animator, in-betweener, checker, inker, painter, and cameraman.

The problem of bringing a character to life by animation is a curious mixture of artistic and technical considerations. Both these factors are interrelated. The animator can't devote himself entirely to the artistic side without considering various technical factors that govern the screen presentation of the scene.

Animation is as much a knack as it is an art. An animator must be a good artist, but it doesn't follow that every good artist has what it takes to be an animator. The requirements of animation demand, besides drawing ability, a certain feeling for analyzing and portraying action, a good appreciation of story-values, a feeling for the fundamentals of pantomime, and a willingness to compromise artistic freedom to exacting technicalities.

The term "animation" is sometimes loosely applied to the entire cartoon industry, but its correct usage implies the actual, specialized work of the animator. For those who insist on definitions, animation is, specifically, the art of creating a series of drawings which, when photographed in a certain sequence and projected upon a motion picture screen, present the illusion of motion.

There's no great mystery about animation. It's based on a few simple, fundamental principles that are analogous to all phases of the process. The technique of animation, however, undergoes a constant series of changes and improvements. This technique is something that's more closely associated with the individual abilities of animators than with any set of technical principles. Improvements in animation come through the animator finding, by trial and experience, better ways to make his characters live.

Many factors are concerned—draftsmanship, better coordination of action and timing, subtler characterizations, and more and more realism of movement. A parallel can be drawn between animation and the technique of the actor, for it's the animator who gives a cartoon character the actual screen performance. Whether the animator's drawings become simply moving drawings or whether they express the feeling of a living, convincing personality is entirely up to his knowledge of animation mechanics and timing combined with his feeling for pantomime and his appreciation of dramatic values.

(The next chapter of this series will deal with the animator's problems—technical and artistic—in bringing a story to life through animation.)

DOLLY SHOT

(Continued From Page 556)

ever," he continued. "There was a gap between the top of the coaches and the roof of the corridor, and although the camera was cutting below it, the 'hot' sky was bleeding into the scene. It became necessary to tarpaulin the opening the full length of the corridor to shut out this unwanted light. Next we found that many of the lamps on the flat cars were reflected in the coach windows, and this problem had to be taken care of before we could get down to the business of shooting. A number of gobos, properly placed plus the erection of tarps on frames soon had this problem out of the way."

All of the production equipment used on this assignment — cameras, dolly, tracks, lights, reflectors, mike boom, etc —were provided by east coast suppliers who regularly service producers of theatrical and industrial films photographed in that area.

The first "standard" film perforations had straight pull-down edges and bowed sides. This shape, now known as the negative-type perforation, was used exclusively until the early 1920's, when a rectangular perforation having straight sides and rounded corners—the so called "positive-type" perforation—came into being for projection prints, to avoid excessive "checking" at the perforation corners. Interestingly, newsreels were the first to give the positive perforation an extensive field test in the days of silent movies.

Negative perforations still are used to some extent for camera films; but positive perforations now hold the field for release prints. Negative perforations vanished when Technicolor abandoned them about 1950.

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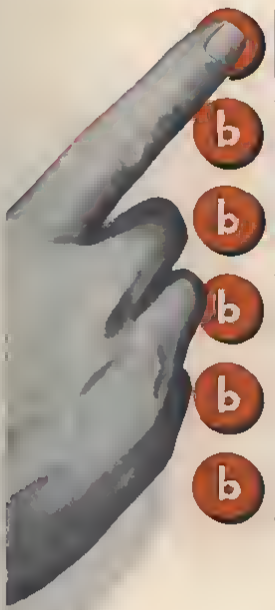
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